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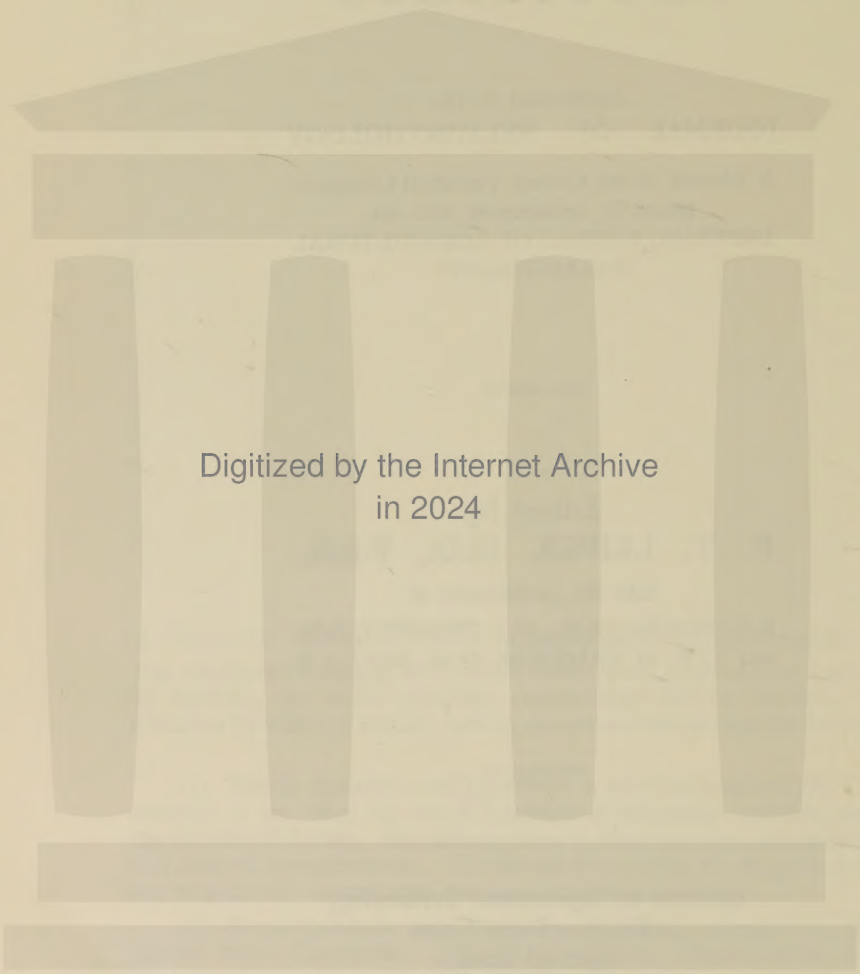

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HELMINTHOLOGICAL ABSTRACTS

Vol. II, No. 2.

57—Állatorvosi Lapok.

a. BALOGH, L.—"Adatok a *Macracanthorhynchus hirudinaceus* Pallas (=*Echinorhynchus gigas*) hazai köztigazdáinak ismeretéhez." LXI (9), 125-129. [1933.]

(a) On land frequented by pigs or manured by swine dung, from 49-77 per cent. of the larval coleoptera may be infected with *Echinorhynchus gigas*, whereas on land not usually stocked with pigs the infection rate may be only 7 per cent. or nil. In the Tompa Veterinary Circuit the intermediate hosts are mainly *Polyphylla fullo* (Fuller's cockchafer) 36 per cent., *Anomala vitis* (Vine cockchafer) 19·53 per cent., *Epicometis hirta* 18·5 per cent., *Melolontha melolontha* 18 per cent., *Anisoplia segetum* 12·2 per cent., *Amphimallon solstitialis* 7·59 per cent., and *Scarabaeus sacer* 0·46 per cent. Two months are required for the full development of the adult. In most cases there are indications of peritonitis following upon penetration of the intestinal wall.

R.T.L.

58—American Journal of Hygiene.

a. AUGUSTINE, D. L.—"Effects of low temperatures upon encysted *Trichinella spiralis*." XVII (3), 697-710. [1933.]

b. BARLOW, C. H.—"The effect of the 'winter rotation' of water upon snails involved in the spread of Schistosomiasis in Egypt, 1930-1931 and 1931-1932." XVII (3), 724-742. [1933.]

(a) Augustine has demonstrated by a series of carefully planned and controlled experiments that raw pork infected with *Trichinella spiralis* can be rendered innocuous in commercial quantities either by lowering its temperature rapidly to −35°C. or by rapidly lowering its temperature to −18°C. and keeping it at that temperature for at least 24 hours. Although about 12 per cent. of the trichina appeared normal microscopically at −33·9°C. test feeding produced no infection. Complete destruction occurred at −34·6°C. and at −18°C. for 24 hours. R.T.L.

(b) The fate of molluscs in the irrigation canals in Egypt during the "winter closure" is discussed by Barlow.

The hypothesis that the canals are restocked annually from floating weeds from the Nile is dismissed and evidence is deduced to show that Planorbis and Bullinus survive the 40-day "winter closure" and that the eggs may do likewise. They also survive the summer rotations and in Kordofan they survive a period of drought of from one to seven months. R.T.L.

59—American Journal of Tropical Medicine.

a. McCOY, O. R.—" The occurrence of *Microfilaria ozzardi* in Panama." XIII (3), 297-310. [1933.]

(a) McCoy has found that there is an endemic centre of *Mansonella ozzardi* in the Tuira River basin, Darien, Panama, where 44·5 per cent. of 119 Indians and 9·9 per cent. of 244 natives were infected. The microfilaria is described. The infection is not considered to be of public health importance. B.G.P.

60—Annales de Parasitologie Humaine et Comparée.

a. LUBIMOW, H. P.—" *Dromaeostrongylus bicuspis* n.g. n. sp., trouvé dans l'intestin de l'autruche émeu au jardin zoologique de Moscou." XI (3), 173-179. [1933.]

b. GNÉDINA, M. P.—" Sur un nématode nouveau des oiseaux : *Skrjabinura spiralis* n.g. n. sp." XI (3), 180-184. [1933.]

c. SOLONITZINE, I. A.—" *Desmana moschata* Brandt, hôte intermédiaire d'un *Porrocaecum* sp." XI (3), 185-187. [1933.]

d. WISNIEWSKI, L. W.—" *Acrolichanus similis* n.sp. trématode nouveau des salmonidés." XI (3), 188-195. [1933.]

e. NEVEU-LEMAIRE, M.—" Les Arthropodes hôtes intermédiaires des helminthes parasites de l'homme." XI (3), 222-237. [1933.]

(a) Lubimow describes a new nematode *Dromaeostrongylus bicuspis* n.g. n. sp. (Trichostrongylinae) from the duodenum and small intestine of the emu *Dromaeus novaehollandiae* from the Zoological Gardens, Moscow.

The author discusses the affinities of the new species and considers that it presents characters, especially in the peculiar structure of the spicules and in the caudal bursa with its long and slender dorsal ray, which justify the erection of a new genus. D.O.M.

(b) Gnédina describes a new nematode *Skrjabinura spiralis* n.g. n. sp. which is considered sufficiently distinctive to be included in a new family *Skrjabinuridae* of the sub-order *Spirurata*. The parasite was found in the small intestine of *Caprimulgus europaeus*.

The new species differs from the members of other families of the *Spirurata* chiefly in the structure of the oesophagus which is not divided into two parts and shows a broadening both at the anterior as well as at the posterior end. Apart from the character of the oesophagus the parasite resembles most closely the species of the family *Seuratidae*. D.O.M.

(c) Solonitzine describes the larval stage of a Porrocaecum species which was found encysted in the desman (*Desmana moschata* Brandt) and considers that the adult form is likely to occur in a bird of prey. D.O.M.

(d) Wisniewski describes a new trematode, *Acrolichanus similis* n. sp. from *Salmo fario* and *S. irideus* in Jugoslavia. The hosts are unusual since other species of the genus have only been found in members of the genus *Acipenser*.

The affinities of the new species are fully discussed as well as the systematic position of the genus. D.O.M.

(e) Neveu-Lemaire gives a list of species belonging to the Crustacea, Arachnoidea and Myriapoda which act as intermediate hosts for the helminth parasites of man.

The classification includes morphological characters and the species are usefully annotated. D.O.M.

61—Annales de la Société Belge de Médecine Tropicale.

a. VAN SLYPE, W.—" Contribution à l'étude des helminthiases intestinales." XIII (1), 85-86. [1933.]

b. VAN SLYPE, W.—" Essai de chrysothérapie des filarioses. Effet euthrophique de l'or." XIII (1), 87-91. [1933.]

(a) Van Slype has tested the reaction of pyramidon on the serum of 26 carriers of ascaris and has found a positive reaction in 61·5 per cent. of the cases; this is similar to values previously obtained for ancylostome and schistosome carriers. B.G.P.

(b) Van Slype has treated 6 native cases of filariasis perstans and loa with intravenous injections of solganal, or intramuscular injections of solganal B; these are complex organic gold compounds.

Towards the end of the treatment fouadin was also injected intramuscularly. There was reduction of microfilariae in the peripheral blood, but they could still be recovered after triple centrifugation of venous blood. The gold appeared to have a general beneficial effect on the weight and blood-picture of the patients. B.G.P.

62—Annali d'Igiene.

a. PANAGIA, A.—" Osservazioni sullo sviluppo delle uova di *Ascaris lumbricoides* (L.)." XLIII (2), 107-119. [1933.]

(a) Panagia gives data on the development of eggs of *Ascaris lumbricoides* under various laboratory conditions.

The eggs were cultured at 18°C. in petri dishes lined with clay; they lay in a central depression around which was an annular depression containing water to maintain a humid atmosphere. They had embryonated by the 35th day. In various strengths of formalin, 5 per cent. acetic acid, 5 per cent. corrosive sublimate, or a saturated solution of calcium hypochlorite development was retarded and in some cases arrested. Unsegmented and embryonated eggs were respectively submitted to a temperature of 0°C. for varying times and were then returned to 18°C.; the unsegmented eggs were more resistant to this treatment, though 20 per cent. of the embryonated eggs survived even 60 days at 0°C. B.G.P.

63—Annali di Medicina Navale e Coloniale.

a. GIUNTA, G.—" Profilassi contro l'uncinariasi in Somalia." XXXIX (3/4), 174-182. [1933.]

b. PENSO, G.—" Saggio storico sull'Anchilostomiasi." XXXIX (3/4), 211-222. [1933.]

(a) Giunta discusses the problem of hookworm disease in Italian Somaliland, where about 90 per cent. of the population is infected, under its epidemiological, prophylactic and therapeutic aspects.

In addition to hygienic measures, he recommends the treatment of the entire population of a Concession on a given day (a holiday) with a mixture of 2 parts CCl_4 and 1 part oil of chenopodium in capsules, the treatment to be repeated a fortnight later. This should be followed by prophylactic treatment twice a year. B.G.P.

(b) Penso's historical account of ancylostomiasis as here published forms an introductory chapter to a book on this disease which he is writing. Identifying the disease with the Egyptian " aaa," mentioned in the Ebers papyrus (16th century B.C.), he passes on to deal at length with the work of Dubini and, less fully, with that of other Italian and foreign workers. B.G.P.

64—Annals and Magazine of Natural History.

a. BAYLIS, H. A.—" The nematode genus *Ascarophis* van Beneden." (Ser. 10), XI (61), 111-117. [1933.]
b. LEROUX, P. L.—" On *Tenuostrongylus cynictis*, gen. et sp. n., a Trichostrongylid parasitizing the yellow mungoose (*Cynictis penicullata*)." (Ser. 10), XI (62), 222-228. [1933.]
c. GOHAR, N.—" *Diplostomum azimi* sp. n., a new trematode parasite of the dog." (Ser. 10), XI (63), 302-306. [1933.]
d. BAYLIS, H. A.—" Two new species of the nematode genus *Mermis*." (Ser. 10), XI (63), 413-420. [1933.]
e. INAMDAR, N. B.—" A new species of avian cestode from India." (Ser. 10), XI (65), 610-613. [1933.]
f. BAYLIS, H. A.—" On a collection of nematodes from Malayan reptiles." (Ser. 10), XI (66), 615-633. [1933.]

(a) Baylis remarks on the difficulty of assigning *Ascarophis* to any of the recognized families of nematodes owing to lack of information concerning the morphology of the male but is inclined meanwhile to associate the genus with the *Thelaziinae*. The author describes female specimens collected from the gurnard, *Trigla lineata*. R.T.L.

(b) *Tenuostrongylus cynictis*, a new species of bursate nematode from the yellow mungoose in the Western Transvaal, is made the type of a new genus by Leroux. This new genus differs from *Molineus*, *Microstrongylus* and *Nemastrongylus* in the characters of the spicules and gubernaculum. R.T.L.

(c) A new Diplostome is described by Gohar which differs from other species of the genus *Diplostomum* in the extremely lateral position of the ovary. It resembles *D. tregenna*, but only in the shape and position of the posterior testes. The 14 species of the genus are listed. R.T.L.

(d) Of 5 species of Mermithidae described from the African continent only 1 is known as an adult form. Baylis gives a detailed description of the adults of 2 new species, viz., *Mermis tamalensis*, Tamale, Gold Coast; and *M. pussardi* from near Lyons. R.T.L.

(e) A second species of tapeworm, *Malika pittae* is described from *Pitta brachyura*. R.T.L.

(f) A collection of reptilian nematodes made by Mr. Purvis in the Malay States contains five new species, viz., *Zanclophorus purvisi*, *Camallanus octorugatus* and *Oswaldocruzia malayana* from the tortoise *Heosemys grandis* ; *Monhysterides testudinicola* from *Trionyx cartilagineus* and *Kalicephalus obesus* from *Elaphe flavolineata*. R.T.L.

65—Annals of Tropical Medicine and Parasitology.

a. ADAMS, A. R. D.—" Report on a collection of nematodes from the Federated Malay States." XXVII (1), 1-13. [1933.]
b. CHATTERJI, R. C.—" On a new nematode, *Parapharyngodon maplestoni* gen. nov., sp. nov., from a Burmese lizard." XXVII (1), 131-134. [1933.]

(a) This annotated list of nematodes found in a miscellaneous collection made partly in Malaya and partly in Britain contains descriptions of two new genera, viz., *Cyclodontostomum* with *C. purvisi* n. sp. from a Malayan rat as type, and *Labiatofilaria* with *L. tringae* n. sp. from the peritoneal cavity of a " knot " in the Edinburgh Zoological Gardens.

Cyclodontostomum is placed in the subfamily *Ancylostominae* but the 8 pairs of teeth are arranged symmetrically around the oral margin of the shallow subglobular buccal capsule. *Labiatofilaria* differs from all other genera of the *Aproctinae* and *Filariinae*, except possibly *Tetracheilonema*, in the strikingly prominent lips. R.T.L.

(b) A new Oxyurid genus *Parapharyngodon* is erected by Chatterji for *P. maplestoni* n. sp. found in the common Burmese lizard *Calotes versicolor*.

It differs from *Pharyngodon* chiefly in the absence of caudal alae, in the forward position of the second pair of caudal papillae, in the presence of an additional median unpaired papilla and a chitinised spicule, while the female genital tubules are arranged differently. R.T.L.

66—Archiv für Schiffs- und Tropen-Hygiene.

a. ERHARDT, A.—" Testierungsmethode dreiwertiger Antimonpräparate an der Opisthorchiasis der Katze." XXXVII (3), 131-135. [1933.]
b. HOEPPLI, R. & FENG, L. C.—" The presence of an anticoagulin in the esophagus of *Bunostomum trigonocephalum* from the intestine of sheep." XXXVII (4), 176-182. [1933.]
c. ERHARDT, A. & BRUMPT, L.—" Wirkung der Brenzkatechindisulfosäure und ihrer Komplexverbindungen auf *Opisthorchis felineus* (Riv.) in vitro und in vivo." XXXVII (4), 182-190. [1933.]
d. PETRUSCHEWSKY, G. K. & TARASSOW, W.—" Die Bekämpfung des *Diphyllobothrium latum* in Karelien." XXXVII (6), 307-315. [1933.]
e. HUNG, S. L.—" Über die Morphologie von *Fasciolopsis buski* beim Menschen in Hsiao-Shan." XXXVII (6), 315-317. [1933.]

(a) Erhardt describes a method of counting eggs in the stool which was useful in estimating the efficiency of certain trivalent antimony compounds as anthelmintics in opisthorchiasis.

The counting method is based on Telemann's concentration method and effectively brings out all the helminth ova in the stool. By means of this it has been found that both Fouadin and sodium pyrocatechin-disulphate were effective anthelmintics against Opisthorchis. P.A.C.

(b) Hoeppli and Feng have demonstrated the presence of an anti-coagulin in the anterior portion of *Bunostomum trigonocephalum.*

Saline extracts of cephalic glands had a distinct inhibitory effect on the coagulation of rabbit blood in vitro when examined by the hanging drop method. Extracts of oesophagus had a similar but much weaker effect. This difference obtained in both fresh material and in that which had been dried previously at 37°C. for two days. Saline extracts of *Spirocerca sanguinolenta, Physaloptera clausa, Dirofilaria immitis* and *Schistosoma japonica* had no inhibitory effect on the coagulation of rabbit blood in vitro. P.A.C.

(c) Erhardt and Brumpt compare the therapeutic efficiency of some antimony compounds with certain metallic salts of pyrocatechin-disulphuric acid.

The antimony compounds are much more effective. As none of these substances are lethal in vitro, they put forward the theory that their anthelmintic power depends on the formation of metabolic toxins in the infected animal. P.A.C.

(d) Petruschewsky and Tarassow give the incidence of *Diphyllobothrium latum* in man and in 17 species of fish as collected from data from 30 of the 62 places in the U.S.S.R. where helminthological work is in progress.

The incidence is greatest in the north-west, as a map shows. They proceed to describe a campaign in this area, in 1931-32, during which 9 species of fish were found infected with plerocercoids of *D. latum* and with those of another type. The incidence of intestinal helminth infestations in 11,652 persons was 52 per cent.; in detail: *D. latum* 40 per cent., Enterobius 11·6 per cent., Ascaris 8·3 per cent. B.G.P.

(e) Certain variations in specimens of *Fasciolopsis* collected in the neighbourhood of Hsiao-Shan are described by Hung who reaches the conclusion that they are due to age differences in *F. buski.* R.T.L.

67—Archiv für Wissenschaftliche und Praktische Tierheilkunde.

a. LÜHRS, E.—" Bekämpfung der Leberegel- und Lungenwurmseuche in den an die See grenzenden Gebieten." LXVI (1), 15-31. [1933.]

(a) In this first paper on the control of liver-fluke on the coastal plains of Oldenburg, Lührs states that locally, in bad years, 87 per cent. of the cattle and practically 100 per cent. of the sheep are infested with liver-fluke. He points out that an attack on the adult fluke with anthelmintics is not sufficient, and proceeds to give details of experiments, involving the use of various chemicals, designed to kill the egg, the miracidium, the molluscan intermediary, and the cercaria, respectively, in the field. B.G.P.

68—Archiva Veterinaria.

a. CIUREA, I.—"Les poissons de la mer Noire comme source d'infestation par les trématodes de la famille des Hétérophyidés et des Échinostomidés." XXIV (3/4), 74-85. [1933.]

(a) Ciurea has found, from feeding 30 species of Black Sea fish to 28 dogs, that 8 species contained infective stages of 5 heterophyid and echinostomid flukes which came to maturity in the intestine of the dogs. The heterophyids, *Parascocotyle longa*, *Cryptocotyle concavum* and *Pygidiopsis genata*, were more numerous in the anterior part of the small intestine, and the echinostomids, *Echinochasmus liliputanus* and *Stephanoprora denticulata* (the latter hitherto recorded only from ichthyophagous birds), in the posterior part. B.G.P.

69—Australian Veterinary Journal.

a. GORDON, H. McL.—"A note on a case of *Trichostrongylus* infestations in a horse." IX (2), 68. [1933.]

(a) An egg count of 10,000 ova of *Trichostrongylus* per gram of faeces is reported by Gordon from a horse in Sydney. It is estimated that 100,000 female worms of *T. axei* were present to produce this result. This is the first record of *T. axei* in Australia. R.T.L.

70—Berliner Tierärztliche Wochenschrift.

a. SCHLEGEL, M.—"Die Lungenwurmseuche beim Dachs." XLIX (22), 341-344. [1933.]

(a) Schlegel claims to be the first to have recorded a lungworm disease from the badger. He describes first the lesions in detail and then the parasites, which he appears to regard as a new species, *Strongylus falciformis*. There are illustrations of the parasites, eggs and larvae, and of an infested lung. B.G.P.

71—Biological Bulletin.

a. SHAW, C. R.—"Observations on *Cercariaeum lintoni* Miller and Northup and its metacercarial development." LXIV (2), 262-275. [1933.]

(a) Shaw finds that *Cercariaeum lintoni*, of which the first intermediary is the marine snail *Nassa obsoleta*, normally encysts and reaches the metacercarial stage in the clam worm *Nereis virens*. The adult is unknown, but the digestive system is similar to that found in the *Haploporidae* although in the arrangement of the reproductive organs the resemblance is to the *Zoogonidae*. R.T.L.

72—British Medical Journal.

a. BUCKLEY, J. J. C.—"*Necator suillus* as a human infection." No. 3772, pp. 699-700. [1933.]

b. DEIVASIKAMONI.—"Tapeworm infection." [Correspondence]. No. 3777, p. 947. [1933.]

(a) Although investigators have failed to infect pigs experimentally with *Necator americanus* Buckley has succeeded in infecting man experimentally with *Necator suillus*. R.T.L.

(b) Two to three ounces of the pulp of melon pumpkin seeds macerated with sugar and milk and given on an empty stomach in the morning followed two hours later by three ounces of *Mist. alba* is a very effective cure for tapeworm according to Deivasikamoni. R.T.L.

73—Bulletin de l'Académie Vétérinaire de France.

a. COUSI, D.—"La Cysticercose bovine en Tunisie." VI, 40-41. [1933.]

(a) At the abattoirs of Sousse in Tunis, Cousi examined cattle for five years for cysticercosis and found 2·25 per cent. infected. The heart proved the most reliable organ for of 621 animals found to be infected 524, i.e., 84·37 per cent., showed cardiac cysts while in only 318, i.e., 51·2 per cent., cysts were found in the masseters, and in the tongue of only 260 cases, i.e., 42·19 per cent. R.T.L.

74—Bulletin of the Academy of Sciences. Allahabad.

a. CHATTERJI, R. C.—"On an Echinostome cercaria—*Cercaria palustris*—with notes on its life-history." II (3), 193-201. [1933.]

(a) From July to October Chatterji has found a new species of echinostome cercaria, named *C. palustris*, heavily infesting the common Indian snail *Indio-planorbis exustus* (Deshayes). It may be identical with *C. mehrai* found in the same host and in the same locality by Faruqui but not by the author. The specific differences are possibly due to errors in description of *C. mehrai*. R.T.L.

75—Bulletins de la Société de Pathologie Exotique.

a. CHAMBON, M.—"Présence de microfilaires dans le liquide céphalo-rachidien d'un trypanosomé avancé." XXVI (4), 613-614. [1933.]

(a) Chambon reports a case of sleeping sickness in which microfilariae of the *perstans* type were obtained not only in the blood but also, by lumbar puncture, in the cerebrospinal fluid. B.G.P.

76—Bulletin de la Société Zoologique de France.

a. DOLLFUS, R. P.—"*Thynnascaris legendrei*, n. gen., n. sp., de l'estomac du germon, *Germo alalonga* (Gmel.)." LVIII, 7-13. [1933.]

(a) Dollfus has added to the Anisakinae a new genus, *Thynnascaris*, to contain the new species *T. legendrei* collected by Legendre from *Germo alalonga*. There are an oesophageal bulb and an intestinal caecum, but neither oesophageal appendix nor dentigerous ridges on the lips. B.G.P.

77—Californian and Western Medicine.

a. JOHNSTONE, H. G. & LARSEN, A. E.—"Onchocercosis in North America." XXXVIII (5), 361-365. [1933.]

(a) Johnstone and Larsen draw attention to the wide distribution of Simulidae and the presence of several species of the genus *Eusimulium*, members of which have already been proved to be vectors of onchocerciasis elsewhere. The numerous imigrants into U.S.A. from Mexico provide a means of introducing the disease there. R.T.L.

78—Canadian Journal of Research.

a. WARDLE, R. A.—" The parasitic helminths of Canadian animals. I. The Cestodaria and Cestoda." VIII (4), 317-333. [1933.]

b. SWALES, W. E.—" *Tetrameres crami* sp. nov., a nematode parasitizing the proventriculus of a domestic duck in Canada." VIII (4), 334-336. [1933.]

c. SWALES, W. E.—" A review of Canadian helminthology. I. The present status of knowledge of the helminth parasites of domesticated and semi-domesticated mammals and economically important birds in Canada, as determined from work published prior to 1933." VIII (5), 468-477, & (5), 478-482. [1933.]

(a) Wardle reviews the literature dealing with tapeworms in Canada and quotes records of a Cestodarian and 53 adult and 24 larval species of cestodes from mammals in the Dominion.

The majority of the cestodes belong to the Dibothriocephaloidea and the Taenioidea. Economically *D. latum* is the most important, but several species of fish are so heavily parasitized with non-human worms as to prevent their commercial use. T.W.M.C.

(b) Swales describes a new species, *Tetrameres crami*, from the proventriculus of a duck obtained from the vicinity of Ottawa.

Only females were found : they are most closely related to *T. coccinea* and *T. cochleariae* differing from the former chiefly in the length of the muscular oesophagus, the relative position of anus and vulva, and the dimensions and form of the ovejector. It is much smaller in every respect than *T. cochleariae*. This is the first record of a species of this genus from Canada. T.W.M.C.

(c) Records by Canadian and foreign investigators on the endemic helminth fauna of Canadian horses, cattle, sheep, swine, deer and buffalo, dogs, foxes and cats, miscellaneous fur-bearers, poultry and game birds are collected and tabulated with a brief historical introduction and a bibliography. R.T.L.

79—Comptes Rendus des Séances de l'Académie des Sciences.

a. JOYEUX, C. & BAER, J. G.—" Sur le cycle évolutif d'un Ténia de Serpent." CXCVI (24), 1838-1839. [1933.]

b. TIMON-DAVID, J.—" Contribution à l'étude du cycle évolutif des Zoogonides (Trematodes)." CXCVI (25), 1923-1924. [1933.]

(a) *Ichthyotaenia racemosa* occurs in *Tropidonotus natrix* at Bologna. In cyclops it develops in 15 days to the procercoid stage and two days later

this loses its tail. The scolex becomes invaginated and the plerocercoid stage is thus attained within the cyclops. 7 days after feeding the infected cyclops to rainbow trout the plerocercoids were present in the body cavity. R.T.L.

(b) Timon-David describes metacercariae encysted in the musculature of Aristotle's Lantern in the sea-urchins *Paracentrotus lividus* and *Sphaerechinus granularis* around the Gulf of Marseilles. They represent the final larval stage of *Zoogonus mirus* Looss, 1901, adult in the rectum of *Labrus merula*. B.G.P.

80—Comptes Rendus des Séances de la Société de Biologie.

a. TRAVASSOS, L.—"*Ascaridia pintoi*, n. sp., parasite de la Perdrix." CXII (14), 1475-1476. [1933.]

b. POPESCO, F. & SASSLER.—"Enquête sur un foyer de filaroise canine en Roumanie." CXII (14), 1491-1492. [1933.]

c. POPESCO, F.—"Sur la valeur de la réaction de Gaté-Papacostas (formol-gélification) dans la filariose du chien." CXII (14), 1493-1494. [1933.]

d. TRAVASSOS, L.—"Filaridés des crocodiles sud-américains." CXIII (18), 218-220. [1933.]

e. DÉVÉ, F.—"De l'existence de formes de transition entre l'échinococcose hydatique et l'échinococcose alvéolaire chez l'homme." CXIII (19), 223-234.

f. BACIGALUPO, J.—"*Anisolabis annulipes* (Lucas), nouvel hôte intermédiaire du *Gongylonema neoplasticum* (Fibiger-Ditlevsen)." CXIII (21), 474-475. [1933.]

g. REBELLO, S., COSTA, S. F. G. da & RICO, T. J.—"Sur l'emploi des Cestodes humains (*Taenia saginata*) comme réactif pharmacologique pour l'étude des anthelminthiques." CXIII (21), 509-510. [1933.]

(a) Travassos describes *Ascaridia pintoi* n. sp. based on two specimens, one immature, collected from *Rhynchotus rufescens* by Dr. Pinto in Rio Grande do Sul. This species could not be confused with *A. brasiliana*. B.G.P.

(b) On examining 89 dogs in the village of Polcesti (Rumania), Popesco and Sassler found microfilariae of *Filaria immitis* in the blood of 56·6 per cent. Neglecting dogs under one year old, since the parasite takes 9 months to mature, the percentage is 65·5. Cutaneous lesions, present in 22 per cent. of cases, were severe, and were accompanied by debility in 4·4 per cent. B.G.P.

(c) Popesco finds that the Gaté-Papacostas reaction (formol-gelatification of serum) is useless as a test for filariasis in dogs.

The serum of 78 dogs was tested, and of 44 infected animals 10 gave a positive reaction, 26 negative and 8 doubtful (cloudy). Of the 34 dogs showing no microfilariae, 6 gave a positive reaction, 25 negative and 3 doubtful. Antimony injections did not affect the reaction. The reaction had previously been found anomalous in taenia infections, and although it is positive for chronic tuberculosis and piroplasmosis in dogs, it is of little value owing to its non-specificity. B.G.P.

(d) Travassos has re-examined Molin's *Filaria bacillaris* on the basis of new material obtained from the South American crocodile, *Caiman sclerops*, and decides to make for it a new genus, *Oswaldofilaria*. From the same host he also describes *Micropleura vazi* n. sp. B.G.P.

(e) Dévé points out that the hypothesis of a specific difference in the parasite causing alveolar hydatidosis in man is largely based on the absence of transitional forms between this and the normal hydatid.

His rejection of this hypothesis is supported by examination of a pericardial infection showing both secondary (unilocular) hydatid, with abnormally small cysts, and lesions of the alveolar type connected with the former by transitional forms. In any case it is improbable that two distinct parasites would invade such an unusual organ in the same patient. B.G.P.

(f) Bacigalupo has found that the insect *Anisolabis annulipes* (Lucas) can readily serve as an intermediate host for *Gongylonema neoplasticum*. Development in the insect takes about 45 days. On experimental feeding to rats, eggs appeared after a further 45 days. B.G.P.

(g) Rebello, da Costa and Rico use proglottids (or portions of a proglottis) of *Taenia saginata* to test the action of various anthelmintics. Although *T. serrata* of the dog is, quantitatively, more responsive to anthelmintics than *T. saginata*, the results are similar in kind and quite different from those obtained with ascaris, earthworms, leeches and fish. B.G.P.

81—Deutsche Landwirtschaftliche Presse.

a. DOMINIAK, W.—"Enten vertilgen die Larven der Lungenwürmer und Leberegel." LX (4), 40. [1933.]

(a) Dominiak has noted the excellent effects on lungworm and liver-fluke infestations which result from allowing ducks to have access to infected pastures.

He suffered considerable loss from these two diseases but when he introduced ducks to the pastures they devoured the intermediate hosts, and as a result he had no further infestation in his cattle. P.A.C.

82—Deutsche Tierärztliche Wochenschrift.

a. FREUND, L.—"Die Bedeutung der Wirte für den Parasiten." XLI (20), 314-315. [1933.]

b. DAVTJAN, E. A.—"Ein neuer Nematode aus den Lungen der Hauskatze. *Osleroides massino*, nov. sp." XLI (24), 372-374. [1933.]

(a) In this discussion on the significance of hosts for parasites Freund points out that the parasite must be able not only to enter the appropriate host but also to leave it again successfully whether this be an intermediate or a definitive host. He suggests "Main" host as more suitable than final host. The numerous and varied parasites which infest every living creature are not to be regarded as permanent settlements so much as accumulated stocks which are successors to previous generations of invaders. Examples are given of "failed colonization" and of "failed hosts," i.e., those which are not consumed by the proper parasite host. Under normal biological conditions parasites should not cause disease or death either in the intermediate or main hosts. Damage or death results only from stored reinfections and belongs to the domain of pathological parasitology in contradistinction to that of normal parasitology. R.T.L.

(b) Davtjan has described a new species of lungworm from the cat, which he assigns to the genus *Osleroides*, giving it the specific name of *massino*.

It differs from *Osleroides felis* (Vogel, 1928) in the smaller size of the oesophagus, spicules and gubernaculum and eggs, in the presence of cervical papillae and in the number and arrangement of the caudal papillae. It occurs in the small bronchioles and lungs of about 30 per cent. of the cats in Armenia. P.A.C.

83—Estate Magazine.

a. HODSON, W. E. H.—" Eelworms. II. The ' cockle ' in wheat eelworm." XXXIII (5), 356-358. [1933.]

(a) Hodson gives an account of the nematode disease known as "cockle" in wheat, both from the point of view of the life-cycle of the parasite and the economic significance and control of the disease.

Although morphologically similar to *Anguillulina dipsaci*, *A. tritici* the causative organism of " cockle " has a very restricted host range. The larvae emerge from the soil and climb on to the growing point of the seedling plant, where, as ectoparasites they are carried up to the inflorescence. Becoming endoparasitic, they reach maturity and reproduce within the developing grains. These remain small, are of a dark brown colour and become packed with hundreds of larvae. Many fall off as the grain is harvested, reinfecting the ground, others are harvested and form a fertile source of infection if the grain is used as seed. Infected seed can easily, however, be cleaned of cockle by immersion in a 20 per cent. salt solution in which the cockle floats and may be skimmed off, the clean grain if rinsed and dried is unharmed. There is also a hot water treatment which is effective in ridding wheat seed of the nematode. M.J.T.

84—Gaceta Medica de Caracas.

a. VOGEL, H. & GABALDÓN, A.—" *Vestibulosetaria*, un nuevo género de filarideos de la ratus." XL (3), 39-43. [1933.]

(a) This paper by Vogel and Gabaldón, describing *Vestibulosetaria* n. g. from rats, is here translated into Spanish from the German original in *Zentralblatt für Bakteriologie* [see Helm. Abs. I, No. 321*a*]. B.G.P.

85—Geneeskundig Tijdschrift voor Nederlandsch-Indië.

a. BRUG, S. L. & ROOK, H. de.—" Filariasis in Nederlandsch-Indië, IV. LXXIII (5), 264-279. [1933.]

b. EMANUEL, J.—" Iets over Bilharzia op de Boven-windsche eilanden (West-Indië)." LXXIII (5), 286-288. [1933.]

(a) Brug and De Rook present some new and some hitherto unpublished data on the epidemiology of filariasis in the East Indies.

Filarial indexes are given separately for *bancrofti* and *malayi* in respect of a number of places in Borneo, Celebes, New Guinea, etc., from which it appears that *malayi* does not extend east of the Moluccas. Data from the

north coast of Ceram reveal a coefficient of correlation of $+0{\cdot}74 \pm 0{\cdot}08$ between the incidence of *Mf. malayi* and that of elephantiasis, but the *malayi* index of elephantiasis cases was in most places lower than that of healthy persons. A few data are included on the development of both microfilariae in mosquitoes. B.G.P.

(b) Emanuel has met with *Schistosoma mansoni* in the French half of St. Martin, Leeward Islands, both in patients and in snails of the genus *Planorbis* (species *olivaceus*?). In the Dutch part of the island he found no infections, although the snails were present. Neither the schistosome nor the snail was found in the Dutch islands Saba and St. Eustatius. Incidentally he mentions finding cercariae in a species of *Planorbis* while he was in Koeta-Radja ; these were probably *Fasciolopsis buski*, since Chinese kept pigs in the locality. B.G.P.

86—Hilgardia.

a. TYLER, J.—" Reproduction without males in aseptic root cultures of the root-knot nematode." VII (10), 373-388. [1933.]
b. TYLER, J.—" Development of the root-knot nematode as affected by temperature." VII (10), 391-415. [1933.]

(a) Tyler describes a method of obtaining and cultivating uncontaminated larvae of *H. marioni* on sterile seedlings, and records the results of experiments and studies conducted by the use of this method which throw light on the reproduction processes of the nematode and on some host parasite relationships.

Tomato seeds, disinfected with calcium hypochlorite and germinated on agar plates, were transferred to plates of plant-nutrient medium where infection was produced by placing one or more larval nematodes near the root-tip. The plants were then transferred to test-tubes of Pfeffer's solution. Uncontaminated larvae were best obtained from potato tubers, from which egg masses were dissected out whole and disinfected by three to five minutes immersion in full strength hydrogen peroxide. They were then placed on agar plates and the larvae were removed by sterilized bamboo splinters as they emerge from the mass. Larvae from root cultures were more successful in penetration of roots than larvae from the field. Different populations of nematodes showed great differences in this respect, partly, but not wholly, due to freshness of the larvae. The condition of the host plant was found to affect the proportion of the invading larvae which attained maturity, and also the sex ratio. Reproduction without males appears to be normal for the species regardless of the source from which the population is obtained. Twelve generations have been completed under experimental conditions without fertilization taking place. The occurrence of males may be only 0·7 per cent. in single-nematode cultures, but a much higher percentage is developed in multiple infections. Observations are detailed which indicate that, under field conditions also, males occur chiefly when the environment is adverse to the nematode. M.J.T.

(b) Tyler describes the methods adopted for the carrying out and interpretation of experiments designed to test the effects of temperature variations on the development of *Heterodera marioni*.

Host plants (tomato) grown both in sterile culture and in soil were used in the experiments, inoculations being made with free larvae. The lowest temperature at which any development could take place was estimated to be about 9°C., and the lowest temperature at which egg-laying took place was 14·3°C. Complete development did not occur at temperatures over 31·5°C. The minimum time required for the completion of the life-cycle was 25 days at 27°C., increasing to 87 days at 16·5°C. Variations in the rate of development for individual nematodes were considerable and were probably related to nutrition. Developing nematodes were found to suffer injury at 36·5°C., again probably owing to nutritional causes, for root penetration was effected by larvae after 5 days at 35°C. and one gall was found in soil above 40·5°C. The rate of egg-laying was estimated as roughly one egg per hour at 22°C. Root penetration required 4 days at 15°C. decreasing to 21 hours at 35°C. M.J.T.

87—Indian Journal of Medical Research.

a. IYENGAR, M. O. T.—"Filariasis in Trivandrum." XX (4), 921-938. [1933.]

b. LLOYD, R. B. & CHANDRA, S. N.—"Complement-fixation in filariasis." XX (4), 1197-1208. [1933.]

(a) Iyengar has studied the incidence of filarial infection and of filarial diseases in Trivandrum, the capital of Travancore, South India. The infection is entirely *F. bancrofti*.

The gross microfilaria rate is 10·5 per cent. rising to 20 per cent. in the centre of the city. Elephantiasis of the limbs is the most common affection and constitutes 53 per cent. of the filarial affections. Areas with a high microfilaria rate have a high incidence of filariasis. Microfilariae are more frequent in early stages, e.g., lymphangitis, than in later stages, e.g., elephantiasis. *Culex fatigans* is the carrier. R.T.L.

(b) Lloyd and Chandra find that cases of acute or subacute lymphangitis exhibit two distinct types of immunity response designated the toxic and the septic types.

In the former the finding of a positive complement-fixation reaction is associated with an eosinophilia, the polymorphonuclear percentage being normal. In the latter there is a negative complement-fixation reaction associated with a polymorphonuclear leucocytosis. As the lymphangitis attack passes off a positive reaction becomes negative but this disappearance does not seem to affect the eosinophilia. The demonstration that some attacks of lymphangitis are of purely toxic origin suggests that probably no benefit is to be looked for in this type from vaccine treatment. R.T.L.

88—Indian Journal of Veterinary Science and Animal Husbandry.

a. DATTA, S. C. A.—"*Schistosoma indicum*, Montgomery, 1906, as the cause of a persistent debility in equines in India, with a description of the lesions." III (1), 1-28. [1933.]

b. RAO, M. A. N.—"Bovine nasal schistosomiasis in the Madras Presidency with a description of the parasite." III (1), 29-38. [1933.]

c. BHALERAO, G. D.—" The trematode parasites of the Indian Elephant, *Elephas indicus*." III (1), 103-115. [1933.]

d. BHALERAO, G. D.—" On a new species of *Gongylonema* (Nematoda) from the domestic fowl." III (1), 116-119. [1933.]

e. BHALERAO, G. D.—" Preliminary note on the life-history of the common liver-fluke in India, *Fasciola gigantica*." III (1), 120-121. [1933.]

(a) Datta describes and fully illustrates the morbid anatomy of the liver, intestines, lymph glands and lungs from some 80 cases of a debility in equines due to *Schistosoma indicum* (Montgomery, 1906). The material consisted of preserved tissues sent to Muktesar.

Ova are deposited mainly in the walls of the rectum and colon where the lesions take the form of " pseudo-tubercles " (showing a varying degree of fibrosis and calcification and involving all the intestinal layers), thrombosed veins in the serous layer, eosinophilic infiltration in the mucosa, and general thickening of the gut wall. Relatively fewer eggs occur in the liver, again giving rise to the formation of nodules, but the organ as a whole shows very marked pathological changes. It is invariably greatly enlarged and shows a typical periportal fibrosis, with no sign of atrophy. The liver lesions are broadly similar to those seen in human (intestinal) bilharziasis but they involve an extraordinary degree of calcification.

A complete clinical picture cannot yet be given, especially of the early stages, but the author includes a few case-reports from outside sources. Debility in equines has long been known in India, and this schistosome may well prove to be the cause, at least in many cases. B.G.P.

(b) Rao gives an illustrated account of the histopathology of nasal schistosomiasis in cattle in the Madras Presidency, and a description of the adult male and female worms which he regards as constituting a new species, *Schistosoma nasalis*.

Buffalo and sheep can also contract the disease, which is characterized by sneezing and the discharge of mucus containing the curious boomerang-shaped eggs. With the later development of sessile granulomata in the anterior nares is associated a snoring noise during respiration.

The miracidium appears to develop in the egg while it is passing through the tissues, during which time the " pseudo-tubercle " typical of bilharzial infections organizes around the egg. Attached or adjacent to the shell, in the centre of the tubercle, is often to be found the " actino body," a plasmodial mass with radially diverging rays, staining pink in haematoxylin-eosin, which may represent the coalescence of large mononuclear cells. In later stages of the disease some degree of fibrosis of the tubercle may occur.

The adult worms, which lie deeper in congested blood vessels, are characterized by a very short posterior caecum and 2-4 testes in the male. The author differentiates them from *S. bomfordi* (60 testes), *S. bovis*, *S. indicum* and *S. spindalis* (caecum half the body length). The egg is somewhat like that of *S. spindalis*, having one side markedly convex and two long horns, but the other side instead of being straight is concave. B.G.P.

(c) Bhalerao discusses the morphology and distribution of the following trematodes parasitic in the Indian elephant: *Fasciola jacksoni*, *Pseudodiscus collinsi*, *P. hawkesi*, *Pfenderius papillatus* and *Gastrodiscus secundus*. *P. collinsi* and *G. secundus*, normally parasites of equines, are recorded from this host for the first time. *P. macaci* and *P. watsoni* are held to be synonyms of *P. hawkesi*. B.G.P.

(d) Bhalerao describes and illustrates a new species, *Gongylonema sumani*, from the crop of domestic fowls in Lucknow. He differentiates it from *G. ingluvicola*, the other avian species. B.G.P.

(e) Bhalerao has shown by experimental feeding that *Limnaea acuminata* is the intermediate host of *Fasciola gigantica*, the common liver-fluke of domestic ruminants in India.

Only one of about 2,000 snails collected in April (1931) was infected with cercariae of the Fasciola type but in July and August the incidence was 40-60 per cent. Infested snails were kept in a cement trough of water with grass which was subsequently fed to 2 hill bulls and 2 hill goats. These began passing eggs within 3 months, the bulls dying a few weeks after and having liver and gall-bladder teeming with flukes. A full account of the life-history is to be published later in this journal. B.G.P.

89—Indian Medical Gazette.

a. MAPLESTONE, P. A.—" Creeping eruption produced by hookworm larvae." LXVIII (5), 251-257. [1933.]

b. ACTON, H. W. & RAO, S. S.—" The pathology of elephantiasis of filarial origin." LXVIII (6), 305-315. [1933.]

(a) Many of the earlier records of creeping eruption indicate no cause or assume it to be due to fly larvae. Maplestone gives a useful summary of the literature of the subject.

From a series of experimental infections he is of the opinion that severe creeping eruption, if it exists in India at all, must be very rare. So far as it can be produced in India *Necator americanus* appears to be the most certain and most active species in causing a skin eruption. R.T.L.

(b) Acton and Rao believe that the pathological conditions in a large number of advanced cases of elephantiasis are mostly due to secondary bacterial infection, the *Filaria bancrofti* being primarily responsible for the damage to the lymphatic system.

Here the filarial pathology is considered under two headings: (i) that due to the filarial toxins; and (ii) that due to the secondary invaders. The clinical symptoms and various factors such as individual susceptibility, intensity of infection, etc., which influence the types of lesions are discussed. R.T.L.

90—Japanese Journal of Experimental Medicine.

a. ISHII, N.—" Studies on bird trematodes. I. Bird trematodes in Japan. II. Four new bird trematodes." XI (2), 91-100. [1933.]

(a) In the vicinity of Tokyo Ishii found trematodes in 4·65 per cent. of the domestic fowls, 54·17 per cent. of the wild ducks, 42·54 per cent.

of the domestic ducks and 25 per cent. of the copper pheasants. Four species named in 1932 in a Japanese paper in "Jikken Igaku Zasshi," Vol. 16, No. 11 (November 20, 1932), are redescribed and figured, viz., *Echinostoma miyagawai*, *Leucochloridium japonicum*, *Apatemon japonicus* and *Cotylurus japonicus*.

In domesticated fowls *Echinostoma revolutum*, *E. miyagawai*, *Harmostoma horizawai*, *Prosthogonimus japonicus* and *Cotylurus japonicus* occurred. In the copper pheasant only *Leucochloridium japonicum* was found while in the ducks there occurred *Echinostoma revolutum*, *E. miyagawai*, *Echinoparyphium koidzumii*, *Prosthogonimus japonicus*, *Apatemon japonicus*, *Notocotyla attenuata* and *Cotylurus japonicus*. R.T.L.

91—Journal of Agricultural Research.

a. STEINER, G.—"*Rhabditis lambdiensis*, a nematode possibly acting as a disease agent in mushroom beds." XLVI (5), 427-435. [1933.]

b. SPINDLER, L. A.—"Development of the nodular worm, *Oesophagostomum longicaudum*, in the pig." XLVI (6), 531-542. [1933.]

(a) Steiner gives a detailed morphological description of *Rhabditis lambdiensis* and discusses its possible significance as a carrier of a bacterial disease of mushrooms.

Morphological differences, occurring chiefly in the lip and bursal regions are pointed out as existing between this material and the descriptions given by Maupas and Cobb of *R. lambdiensis* and *R. monhystera* (a probable synonym), respectively. The nematodes were found to be numerous in decaying brown spots which appeared on the tops of the mushrooms infected by *Bacterium tolaasi*. Balls of bacteria were found in the pharynx and intestine of the nematode, and it was concluded that as a carrier of disease the economic importance of the nematode was almost as great as that of the primary bacterial parasite. M.J.T.

(b) Spindler has traced the development of the nodular worm, *Oesophagostomum longicaudum* in the pig and gives a description of the parasitic larval stages.

In 48 hours after infection, third-stage larvae were found encysted in the colon of the infected animal and the area around the cysts became intensely inflamed. In 17 days, late fourth-stage larvae were found emerging from the nodules and it is considered that the entry into the lumen occurs at this stage or at the early fifth-stage of development. Nodules decreased in size after the emergence of the larvae and at the end of 35 days had almost completely disappeared. These changes in the nodules and in the wall of the large intestine are well illustrated. Eggs appeared in the faeces in from 50 to 53 days after infection. D.O.M.

92—Journal of the Chosen Medical Association.

a. FURUYAMA, T.—" The influence of temperature on the development of egg and larvae of *Ancylostoma duodenale* and *Trichostrongylus orientalis* outside the host." XXIII (4), [In Japanese : English summary pp. 30-31.] [1933.]

(a) Furuyama has tested the effect of various high and low temperatures on eggs and larvae of *Ancylostoma duodenale* and *Trichostrongylus orientalis* with particular reference to : (i) viability of eggs ; (ii) development to the infective stage ; (iii) viability and longevity of infective larvae ; and (iv) motility of infective larvae. In all respects the hookworm was the less resistant to low temperatures. Infective larvae of *T. orientalis*, unlike those of the hookworm, failed to show positive thermotropism. B.G.P.

93—Journal of the Egyptian Medical Association.

a. AZMY, S., EFFAT, S. & NESHOUKATI, H.—" An investigation of anemias in Egypt. Analysis of 50 consecutive cases." XVI (4), 258-267. [1933.]

(a) Azmy and his colleagues have investigated 50 consecutive cases of anaemia in Egypt and have recognized aetiologically three distinct types, viz. : (i) the traditional ankylostome anaemia ; (ii) chronic gastritis anaemia ; and (iii) chronic dysentery anaemia, but it has not proved possible to distinguish them on haematological grounds. R.T.L.

94—Journal of Helminthology.

a. OLDHAM, J. N.—" On *Howardula phyllotretae* n. sp., a nematode parasite of flea beetles (Chrysomelidae ; Coleoptera), with some observations on its incidence." XI (3), 119-136. [1933.]
b. CARROLL, J.—" A study of the potato eelworm (*Heterodera schachtii*) in the Irish Free State." XI (3), 137-156. [1933.]
c. SOLOMON, S. G.—" The helminth parasites of dogs in Marseilles." XI (3), 157-162. [1933.]
d. THAPAR, G. S.—" A new blood fluke from an Indian tortoise, *Trionyx gangeticus*." XI (3), 163-168. [1933.]
e. MORGAN, D. O.—" The effect of heavy stocking on the worm burden under a system of rotational grazing." XI (3), 169-180. [1933.]

(a) Oldham describes the occurrence of *Howardula phyllotretae* n. sp. parasitic in flea beetles of the genus *Phyllotreta* in Britain and Germany.

Four species of *Phyllotreta* were found to harbour the parasite in Hertfordshire, the incidence of infection being in one case, *P. undulata*, 74 per cent., although from material collected in Schleswig-Holstein only 27·9 per cent. of the same species of host proved to harbour the infection. The morphology of the large, sausage-shaped adult females from within the abdominal and thoracic cavities of the host, and of the larvae immediately following their liberation from the female and at the termination of their developmental phase within the beetle, is described, and the diagnostic characters of the species are given. No other stage of development was found. The final larval stage of the nematode was found to penetrate the ovaries and oviduct of the host, apparently ready for deposition with the eggs. The male genitalia were not parasitized and the method of escape from the male beetle is unknown. Ovaries and testes of parasitized beetles were less well developed than the normal. The general result of infection being a reduction in development and fecundity of the host. M.J.T.

(b) Carroll gives an account of the discovery and distribution of *Heterodera schachtii* in Ireland, together with field observations on some aspects of the disease, and the results of several series of pot experiments to elucidate the relationship between intensity of disease symptoms and the cyst-content of the soil.

Infected fields laid down to grass for 3 years gave poor results when again used for potato-culture. No relationship was found between pH value of soil and abundance of eelworm, and soils having a pH above 7·0 were not unfavourable to eelworm. Field tests and pot experiments using various chemical treatments of soil as methods of controlling the disease gave negative results except in the case of calcium cyanamide, where some slight result was obtained. The results of the pot experiments on the relationship between intensity of disease and cyst content of the soil are of particular interest. Soil which had never before grown potatoes failed to produce healthy plants when inoculated with eelworm, and heavily infested soil cleared of eelworm cysts by sieving produced healthy plants, though on the re-introduction of cysts the plants again failed. Plants grown in steam-sterilized soil re-infected with eelworm cysts did not show disease symptoms although they were heavily parasitized. The experiments indicate that the intensity of disease symptoms is strongly influenced by the degree of infestation of the soil. M.J.T.

(c) Solomon found that, of 37 dogs examined post-mortem at Marseilles, each was infested with one or more of the following species: *Toxascaris leonina*, *Toxocara canis*, *Dochmoides stenocephala*, *Echinococcus granulosus*, *Taenia pisiformis*, *T. hydatigena*, *Mesocestoides lineatus* and *Dipylidium caninum*.

He found that neither *T. pisiformis* and *T. hydatigena* nor *Toxascaris leonina* and *Toxocara canis* respectively were ever present together in the same dog. The percentage infections were compared, in a table, with those of other surveys in other parts of the world. B.G.P.

(d) Thapar describes and figures *Tremarhynchus indicus* n. g., n. sp., from the blood vessels of the mud-turtle, *Trionyx gangeticus*.

This genus of Spirorchidae lies between *Hapalotrema*, which it resembles in having follicular testes, lobed ovary, and seminal vesicle outside the cirrus, and *Hapalorhynchus*, which it resembles in having a protrusible oral sucker, no body spines, and an anteriorly placed genital pore. B.G.P.

(e) Morgan has carried out an experiment in heavy stocking of grassland with goats, under the "New System of Grassland Management" which involves frequent rotational cropping alternating with nitrogen manuring under fallow, in order to test the effect of this system on the worm-burden, as revealed in egg-counts.

Five 2-year-old, stall-fed, parasite-free goats were grazed successively for a week at a time on 6 grass plots of $\frac{1}{2}\frac{1}{3}$th acre each. At the end of the week the grazed plot was harrowed and manured with sulphate of ammonia.

As a control, five similar goats were grazed on an area of $\frac{3}{8}$ths acre, 50 per cent. larger to compensate for the lack of rotation and manuring. The experiment was extended from June through 4 complete rotations.

The worm-burden remained fairly low until October when a rapid rise coincided with a decrease in quantity and quality of the herbage. After October, when the " New System " would normally be suspended, rotation ceased and all goats were fed hay and concentrates on the same plots. Mushy stools, invalidating the egg-counts, then were passed by the experimental goats only, all of which died during the winter. The author tentatively concludes that, in summer only, the worm-burden is relatively low and may be well resisted under the New System; but he stresses the need for a long-term large-scale experiment to elucidate the many complex factors involved.

The technique of egg-counting, involving the use of N/10.NaOH and of the new McDonald pipette, is described. B.G.P.

95—Journal of Oriental Medicine.

a. HIYEDA, K. & SUZUKI, M.—" Parasites of Manchurians." XVIII (5), [English summary pp. 50-51.] [1933.]

b. TERAI, T.—" Sur un cas de Cysticercus cellulosae Hominis." XVIII (5), [French summary p. 52.] [1933.]

(a) The results of a survey of 760 apparently healthy Manchurian labourers in the different cities along the South Manchurian Railway are tabulated. *Enterobius*, *Taenia*, *Trichostrongylus* and *Clonorchis* were rare but *Ascaris* averages 94·4 per cent., *Necator* 39·2 per cent. and *Trichuris* 41·9 per cent. The protozoal findings are also given. R.T.L.

(b) In Japan cysticercosis is rarely met with. A case is recorded by Terai in which 195 cysts were visible on the body. There was also an eosinophilia of 30·5 per cent. Clinical symptoms are described. R.T.L.

96—Journal für Praktische Chemie.

a. GULATI, K. C., SETH, S. R. & VENKATARAMAN, K.—" Antiseptica und Anthelmintica, I. 1-Alkyl-2-naphthole." CXXXVII (1/3), 47-52. [1933.]

(a) The authors have prepared 15 alkyl derivatives of β-naphthol which is a well-known anthelmintic. Bearing in mind the fact that the alkyl derivatives of hexylresorcinol become progressively more efficient as anthelmintics as the length of the side chain increases, they infer that these derivatives of β-naphthol may also be useful in this way. P.A.C.

97—Journal of Tropical Medicine and Hygiene.

a. CAWSTON, F. G.—" The frequency of liver changes in Schistosomiasis." XXXVI (7), 98-99. [1933.]

b. GREIG, E. D. W.—" Notes on cases of calabar swellings (*Loa loa* infection)." XXXVI (12), 169-170. [1933.]

(a) Hepatic changes are to be feared where the liver contains large numbers of ill-developed or degenerating schistosomes. Cawston believes

that enlargement of the liver is more likely to be due to adults than to ova so that it should subside as they reach maturity and migrate to the veins.

R.T.L.

(b) The Clinical history and differential white cell counts of 6 cases of *Loa loa* are given by Greig. R.T.L.

98—Journal of the Washington Academy of Sciences.

a. STEINER, G. & ALBIN, F. M.—"On the morphology of *Deontostoma californicum* n. sp. (Leptosomatinae, Nematodes)." XXIII (1), 25-30. [1933.]

b. ALICATA, J. E.—"A new genus for the nematode *Filaria cistudinis* Leidy, 1856, of the family Filariidae." XXIII (2), 95-100. [1933.]

c. CASSIDY, G. H.—"A bivulvar specimen of the nematode *Mononchus muscorum* (Dujardin) Bastian." XXIII (3), 141-144. [1933.]

(a) Steiner and Albin describe *Deontostoma californicum* n. sp. from a single male specimen, the first of the Leptosomatinae group to be found on the Pacific coast. Among the characters of the species are ocelli, and a large number of short setae in the region anterior to the nerve-ring. There is a cuirass with six equal, imperforate, anchor-shaped lobes. M.J.T.

(b) Alicata has found in the heart cavities of a turtle, *Terrapene carolina*, a filariid which appears to be identical with *Filaria cistudinis* (Leidy, 1856), from the same host and site. The parasite belongs to the subfamily Aproctinae of the Filariidae and constitutes a new genus for which the name *Cardianema* is proposed. A key to the Aproctinae is given. B.G.P.

(c) Cassidy describes and figures an abnormal specimen of the free-living nematode *Mononchus muscorum* in which there were two vulvae one at 55 per cent. and the other at 66 per cent. of the total body length (normal : 64 per cent.). The usual opposed gonads were associated with the posterior vulva and a single anterior gonad with the anterior vulva. B.G.P.

99—Kleintier und Pelztier Illustrierte Rundschau. (Continuation of "Pelztierzucht.")

a. SPREHN, C.—"Hebung der Wirtschaftlichkeit der Kleintierzucht durch Bekämpfung der tierischen Parasiten." IX (5), 61-62. [1933.]

(a) Sprehn gives an elementary account of parasites and stresses the importance to the small-animal breeder of infestations which, too slight to give rise to visible symptoms, are yet capable of reducing the economic value of domesticated animals.

The contrast, in civilized countries, between the degree of infestation of man and that of his animals is due to the failure to apply suitable hygienic measures to the latter ; overcrowding is a particularly unfavourable factor. Treatment of animals is useful but, since science has discovered so much about the biology of parasites, far more attention should be paid to prophylaxis. B.G.P.

100—Lingnan Science Journal.

a. CHEN, H. T.—"A preliminary report on a survey of animal parasites of Canton, China, rats." XII (1), 65-74. [1933.]

(a) Chen has surveyed the animal parasites of 84 Cantonese rats (*Mus norvegicus*, *M. rattus* and *Mus* spp. unidentified) from October 1931 to November 1932 and records the finding of both ecto- and endo-parasites. Amongst the latter 11 trematodes representing 5 species were recovered, while 5 species of cestodes and 9 species of nematodes were represented. One Acanthocephalid, *Moniliformis moniliformis*, was found in two instances. A useful table shows the various worms found, their numbers and distribution amongst the hosts. Amongst the parasites listed 4 are reported as new in rat hosts, viz., *Paragonimus* sp., a Metastrongylid, a Strongylid and an undetermined fluke.

A comparison made between the rat fauna of 3 different eastern regions exhibits the fact that, although the incidence is much lower, the number of species present is greater in rats from Canton than in those from Soochow and the Philippines. J.N.O.

101—Mededeelingen van den Dienst der Volksgezondheid in Nederlandsch-Indië.

a. RODENWALDT, E.—"*Microfilaria malayi* im delta des Serajoe. I." XXII (1), 44-54. [1933.]

b. RODENWALDT, E.—"Zur Morphologie von *Microfilaria malayi*." XXII (1), 54-60. [1933.]

(a) Rodenwaldt finds that carriers of *Microfilaria malayi* and cases of elephantiasis cruris are common in the delta of the Serajoe (Java), the incidence running to 41 per cent. and 3·2 per cent. respectively in some villages.

The physiographical situation, the river meandering and shifting its course leaving residual lakes which abound with floating weeds and mosquitoes, is causally related to the pathological findings. *Taeniorhynchus annuliferus*, *T. uniformis*, *T. indianus* and *Anopheles sinensis* appear to be the chief vectors, although 10 species of *Culex* and 3 more species of *Anopheles* may also be involved. A map emphasizes the geographical and epidemiological data. B.G.P.

(b) In this second paper Rodenwaldt gives an exhaustive illustrated description of *Microfilaria malayi*, based on vital staining with 1 : 3,000 Azur II, confirming and amplifying Brug's description.

It differs from *Mf. loa* in having an inner body, and from *Mf. bancrofti* in the positions of the excretory cell and genital cells, in the size of the G_1 cell, and in the characteristics of the tail. The tip of the tail shows great diversity of form. It is a flaccid appendage, sometimes invaginated, which contains structures that stain only with certain dyes and then only in certain specimens: these are not "nuclei" in the usual sense, and may be artefacts. B.G.P.

102—Medicina de los Países Cálidos.

a. MARTÍNEZ, F. F. & PEREGRÍN, E. S.—" Estudio parasitologico de cien casos de diarrea en Granada." VI (3), 177-195. [1933.]

b. BOTIJA, F. P.—" Parasitismo intestinal en la provincia de Huesca." VI (3), 202-203. [1933.]

c. CALATAYUD, A. R.—" 27 casos de teniasis por *Hymenolepis nana*." VI (3), 208-214. [1933.]

(a) Martínez and Peregrín have examined, for helminthic and protozoal parasites, the faeces of 100 cases of diarrhoea in Granada. The positives (71 per cent.) are tabulated in detail under simple and the various multiple infestations. The authors also quote from literature the results of numerous other regional surveys in Spain and various parts of the world, and comment upon the differences in distribution thus revealed. B.G.P.

(b) Botija has compared the incidence of helminths, as revealed by faecal examination, in two groups of children: 151 from Monzón, an urban district with 5,000 inhabitants and a water supply, and 53 from La Melusa, a rural district of scattered houses which are shared by domesticated animals. The incidence was higher in the town, 25·8 per cent. as against 18·8 per cent., although that of *Hymenolepis nana* was about the same in both. The unexpected result is probably due to a contaminated water supply in Monzón. B.G.P.

(c) Calatayud clinically reviews 27 cases of hymenolepiasis nana in children, tabulating the differential leucocyte count in each case. The infestation is commoner in Spain than is generally supposed, so many cases being merely carriers devoid of symptoms. Of the 27 cases, 24 displayed an eosinophilia but only 7 a monocytosis. B.G.P.

103—Memorias do Instituto Oswaldo Cruz.

a. LUTZ, A.—" Considerações sobre o *Distomum tetracystis* Gastaldi e formas semelhantes, erroneamente chamadas Agamodistomos." XXVII (1), 33-49. [1933.]

(a) Lutz discusses the larval trematode called *Distoma tetracystis* by Gastaldi in 1854, and later erroneously known as an Agamodistomum. As this is not a distome at all but a larval stage, following the Dicranocercaria stage, of a Strigeid, the author suggests the term Pseudodistomula. Similar forms from pigs, snakes and mustelidae are also discussed.

He distinguishes pseudodistomulae with 8 and those with 4 glandular cells. The former metamorphose into a tetracotyle in various animals, the adult being *Strigea vaginata* in birds of prey. Some at least of the 4-celled pseudodistomulae metamorphose into a diplostomum in carnivores; the adult, in the same or in other carnivores, is a species of *Alaria*. Probably other 4-celled forms are Strigeinae with a tetracotyle stage. Some Strigeinae and Alariinae, having a simpler development involving only one intermediate host, produce no pseudodistomula.

In addition to illustrations of his own material the author reproduces the few figures available, and the relevant text, from the literature. B.G.P.

104—Münchener Tierärztliche Wochenschrift.

a. JAEGER, M.—" Lungenwurmseuche und Kalium picrinicum." LXXXIV (21), 245. [1933.]

b. THIENEL.—" Obligatorische Trichinenschau in Bayern, eine dringend notwendige hygienische Massnahme." LXXXIV (22), 253-257, & (23), 270-274. [1933.]

(a) Jaeger gives two methods for neutralizing picric acid before using it in the control of lung-worms in sheep. Both involve titration with N/10·KOH in the presence of phenolphthalein but in the second method the bulk of the base is supplied by $KHCO_3$, and the tint of the indicator is usefully retained. B.G.P.

(b) After an historical review of trichinosis in Germany, and particularly in Bavaria, Thienel urges the necessity of obligatory trichina-inspection for Bavaria as a whole, where until this year it has been at the option of individual towns. Details of the rate at which pigs can be inspected by microscope and trichinascope, and of the cost per pig, are given. Since this was written the National Revolution has occurred and inspection is now obligatory. B.G.P.

105—Nature.

a. LAPAGE, G.—" Cultivation of parasitic nematodes." CXXXI (3312), 583-584. [1933.]

(a) Lapage details a method for the culture of larvae of nematodes parasitic in sheep. The method involves concentration of eggs by flotation with sugar, disinfection with antiformin in formalin, washing in distilled water, and culture at 18°–20°C. in petri dishes in dilute plain broth which has been inoculated with *B. coli* to serve as food. Larvae at the infective (3rd) stage are made to exsheath, and the *B. coli* are at the same time destroyed, by placing the larvae in a 1 in 20 dilution of " Milton." B.G.P.

106—Nederlandsch-Indische Bladen voor Diergeneeskunde en Dierenteelt.

a. MEIJER, W. C. P.—" Experimenteele trichinosis bij een aap." XLV (1/2), 118-121. [1933.]

(a) Meijer fed trichinous rat and pig flesh to a monkey. Although there were no intestinal symptoms in the early stage, muscular contraction and stiffness followed, and young larvae were demonstrated in excised muscle after 26 days. The question as to whether the East Indian form of trichinelliasis can affect man, as well as pig and dog, remains undecided. B.G.P.

107—Nederlandsch Tijdschrift voor Geneeskunde.

a. ELSBACH, L.—"Eosinophiele appendicitis." 77th year, I (11), 1204-1209. [1933.]

(a) In 4 of 68 appendicectomies at Surinam Elsbach found the submucosa, muscular layer and subserosa of the organ infiltrated with eosinophile cells. He associates this with an infestation of *Schistosoma mansoni*, eggs of which were present in two of the cases. B.G.P.

108—Parasitology.

a. LI, H. C.—" Report on a collection of parasitic nematodes, mainly from North China. Part I. Filarioidea." XXV (2), 192-223. [1933.]

b. DAUBNEY, R.—" Trichostrongylid nematodes from sheep in Kenya." XXV (2), 224-241. [1933.]

c. WILLEY, C. H.—" The lymph system of *Zygocotyle lunatum* (Trematoda, par Amphistomidae [Paramphistomidae])." XXV (2), 242-247. [1933.]

d. JONES, E. I.—" On *Ceratotrema furcolabiata* n.g. et n. sp., and *Hemipera sharpei* n. sp., two new digenetic trematodes of British marine fishes." XXV (2), 248-254. [1933.]

(a) Li describes 14 species of filaria worms mostly from North China and mainly from birds.

Several of his species are new and include *Diplotriaena microphallos*, *D. cantonensis*, *Onchocerca bambusicolae*, *Pseudaprocta decorata* and *Chandlerella sinensis*. *O. bambusicolae* is the first species of Onchocerca recorded from birds. T.W.M.C.

(b) Daubney reviews the species of Trichostrongyles from Kenya, discusses their distribution and describes two new species.

Trichostrongylus colubriformis is common and is often associated with *T. probolurus* in heavy infections. *T. axei* is also common in sheep and cattle but *T. vitrinus* is rare. *T. hamatus* is a new species of frequent occurrence. It has unequal spicules and is readily distinguished by their shape and size and by the bursal rays. *Cooperia curticei* is occasionally found in sheep, while *C. oncophora* is frequent and *C. punctata* is quite common in these animals. *C. pectinata* is frequent in cattle from the plains and is not uncommon in sheep : the cattle representatives of this species appear to fall into races according to the length of the spicules and *C. nicolli* (Baylis) may belong to this species. *C. serrata* is being found in increasing numbers in natural infections in sheep. A new genus *Cooperioides* is created for *C. kenyensis* sp. nov., which has been repeatedly found in sheep and *C. antidorca* (Mönnig) is placed in it also. The bursa is extremely voluminous, the dorsal ray cleft for about half of its total length, and the spicules are stout and foliaceous. *Ostertagia circumcincta* is common in sheep and *O. pinnata* n. sp., is described, differing in having shorter, thick and more foliaceous spicules. The females have not yet been definitely identified. *Impalaia nudicollis* is appearing with increasing frequency in sheep, being acquired from game animals. T.W.M.C.

(c) Willey describes the lymph system of *Zygocotyle lunatum*, an amphistome parasite of *Anas* spp. which has also been found in the cow. It consists of a single pair of main longitudinal vessels, dorsal and slightly medial to the intestinal caeca. T.W.M.C.

(d) Jones describes two new species of trematodes, the first from *Onos mustela* the second from *Cepola rubescens*.

The first, *Ceratotrema furcolabiata* gen. et sp. nov., was found in the coelom. It is 7·7 mm. long and 1·7 mm. broad with a lip rising from a broad base at the anterior end and terminating in two elongated processes. The fluke is referred to the Hemiuridae, close to the genus *Lecithochirium*. The

second species, *H. sharpei* sp. nov. is related to *H. ovocaudata* Nicoll, differing in its greater size, prominent receptaculum, presence of Laurer's canal, and its generally larger and more robust body. T.W.M.C.

109—Pelztierzucht. (After No. 4 [April] 1933, continued as "Kleintier und Pelztier.")

a. STETTER, R.—"Lungen- und Darmparasiten beim Silberfuchs und ihre Bekämpfung." IX (4), 49-51. [1933.]

(a) In this second paper [see Helm. Abs. II, No. 36*c*] Stetter concludes his account of the intestinal parasites and lungworms of the silver fox and their control.

Following the same method of question and answer he deals first with the control of hookworm [a section properly belonging to his first paper], then with the ascarids: *Toxocara canis*, *T. cati* and *Toxascaris leonina*; the tapeworms: *Taenia pisiformis*, *Diphyllobothrium latum*, *Mesocestoides lineatus* and *Dipylidium caninum*; and finally with coccidiosis. B.G.P.

110—Proceedings of the United States National Museum.

a. SCHWARTZ, B. & ALICATA, J. E.—"Description of two parasitic nematodes from the Texas peccary." LXXXII (Art. 15), 1-6. [1933.]
b. WEHR, E. E.—"A new nematode from the rhea." LXXXII (Art. 17), 1-5. [1933.]

(a) Schwartz and Alicata describe *Parostertagia heterospiculum* gen. et sp. nov., from the small intestine of a white-collared peccary.

The new genus differs from Ostertagia in having the ventral rays widely separated, and the tips of the spicules pointed. The females measure 4·6 to 5·8 mm. and the males 4·4 to 5·5 mm. in length. The same hosts also harboured *Physocephalus sexalatus*, *Moniezia benedeni* and two females of a species of *Parabronema* which, in the absence of males, is not identified but is believed to be new. T.W.M.C.

(b) Wehr describes *Odontospirura cetiopenis* gen. et sp. nov. from the gizzard and proventriculus of *Rhea americana*.

The males have equal and similar long spicules although the worms obviously belong to the Spiruridae, the definition of which is accordingly amended. The closest relation to this genus appears to be Habronema. T.W.M.C.

111—Puerto Rico Journal of Public Health.

a. SUÁREZ, J.—"Elephantiasis tropicum." VIII (3), 287-292. [In Spanish: 293-298.] [1933.]
b. SUÁREZ, R. M.—"Clinical aspects of uncinariasis." VIII (3), 299-337. [In Spanish: 338-366.] [1933.]

(a) Suárez regards obstruction of lymphatics and bacterial infection as essential and complementary factors in the aetiology of elephantiasis tropicum.

In inflammatory conditions the protein content of lymph is increased, so as to assist in the regeneration of damaged cells. The continuous supply

of superabundant protein in recurrent lymphangitis stimulates the hypertrophy characteristic of elephantiasis. Obstruction is frequently due to filariasis in the tropics but the author quotes four cases of elephantiasis of a non-filarial origin. In the tropics the portal of bacterial infection is commonly the skin, especially that of the toes and feet which are subject to mycotic infestation ; chronic cases of lymphangitis thus established may respond allergically to bacteria, or their toxins, introduced by a mere abrasion of the skin. Prophylaxis and local treatment can have little value as compared with preventive protein therapy or the injection of streptococcus vaccine. B.G.P.

(b) Clinical and haematological studies of 22 cases of chronic uncinariasis reveal no relationship between the percentage of haemoglobin and the number of parasites harboured.

Worm counts and Stoll's egg count did not correspond. Neither the number of worms nor the amount of haemoglobin influenced the gastric secretion. In 80 per cent. of the cases there was oedema which caused the increase of weight to mask a hidden state of wasting or malnutrition. All but 3 cases showed hypochromic anaemia with predominant microcytosis. The three cases of macrocytic anaemia were regarded as concurrent. The importance of nutrition is evident. Cases responded equally to iron ammonium citrate irrespective of the presence or loss of worms by vermifuges. R.T.L.

112—Queensland Agricultural Journal.

a. ROBERTS, F. H. S.—" Preliminary experiments on the mass treatment of poultry for the round-worm, *Ascaridia lineata* Schneider." XXXIX (4), 161-163. [1933.]

(a) It is suggested by Roberts that oil of chenopodium may be regarded as the safest drug which may be depended upon to remove a fair percentage of Ascaridia present.

Steeped tobacco was also used but is not recommended until further work has been carried out as blood appeared in the stool after administration. Tobacco dust was only very slightly efficient. In the case of chenopodium, he recommends 3 treatments at intervals of 10-14 days. P.A.C.

113—Revue Générale de Médecine Vétérinaire.

a. JALABERT, H.—" Lésions kystiques du mouton, Ladrerie atypique." XLII (496), 214-215. [1933.]

(a) Jalabert describes what may have been a case of atypical cysticercosis in a sheep. Numerous small cysts in the carcass were found to be acephalous and to contain blood clots. They may have been cysticerci in course of organization. B.G.P.

114—Revue de Médecine et d'Hygiène Tropicales.

a. PONS, R.—"Les probabilités et le terrain vermineux." XXV (2), 95-99. [1933.]

(a) By calculating the probabilities of mixed verminous infestations Pons shows that actual data from Tonkin and Saigon have a random distribution, so that it is unnecessary to assume a factor of personal susceptibility. Thus, he takes the percentage-incidence data for 4 helminths, as found by Mathis and Léger in a population of 1,250 in Tonkin, and calculates the probable values for the various double, triple and quadruple infestations, assuming a random distribution. He then shows that the actual values given by Mathis and Léger approximate reasonably closely to these probabilities. A similar treatment of data from a population of 850 at Saigon shows an even closer approximation of actual to probable values. B.G.P.

115—Revue Suisse de Zoologie.

a. DUBOIS, G.—"Notes sur deux espèces de Strigeidae et sur une espèce d'Hemiuridae." XL (1), 1-10. [1933.]
b. BAER, J. G.—"Contribution à l'étude de la Faune helminthologique africaine." XL (1), 31-84. [1933.]
c. FUHRMANN, O.—"Cestodes nouveaux." XL (1), 169-178. [1933.]

(a) Dubois has figured *Strigea falconis* (Szidat), *Cotylurus platycephalus* (Creplin), and *Dinurus tornatus* (Rudolphi), giving tables of measurements which in the first two cases are compared with those given by Szidat. B.G.P.

(b) Baer here reports at length on a collection of trematodes and cestodes from mammals, birds, reptiles and amphibia, collected in Liberia and Southern Rhodesia by Dr. Sandground.

The following 9 new species are described *inter alia* : *Brachylaemus attenuatus* from *Turacus livingstonei*, *Inermicapsifer tanganyikae* from *Procavia lademanni*, *Andrya africana* from *Tatera lobengulae*, *Hymenolepis petrodromi* from *Petrodromus tetradactylus*, *H. sandgroundi* from *Pipistrellus nanus*, *Mesocestoides dissimilis* from *Myonax sanguineus proteus*, *Raillietina* (*R.*) *idiogenoides* from *Vinago delandii*, *R.* (*R.*) *turaci* from *Turacus livingstonei*, and *Hymenolepis rhodesiensis* from *Lybius torquatus*. B.G.P.

(c) Fuhrmann describes and figures a new species of *Davainea*, *D. andrei*, from *Perdix perdix*, and a new genus of Anoplocephalidae, *Baeriella*, to contain *B. proterogyna* n. sp. from *Macropus rufus*. The genus *Baeriella* has close affinities to both *Hepatotaenia* (Nybelin) and *Progamotaenia* (Nybelin). B.G.P.

116—Revue Vétérinaire et Journal de Médecine Vétérinaire.

a. MAROTEL.—"Les meilleurs vermifuges du gros intestin chez le cheval." LXXXV, pp. 65-74. [1933.]

(a) Marotel gives the results of tests made with six vermifuges on horses infected with the Strongyles of the large intestine. Two of these are recommended, viz., carbon tetrachloride ("Didakol" being the commercial

preparation used) and the vermifuge of Lagaillarde which contains essence of terebenthine, chloroform, castor oil, and arecoline.

The other four vermifuges tested were terebenthino-benzol (" Vitan "), pyrethrine (" Prolana "), thymol and tetrachlorethylene (" Didakine-Poulenc "). These are rejected on the grounds of inefficacy, cost, or danger to the host—the last-named in particular producing alarming symptoms in the experimental animals. D.O.M.

117—Schweizerische Medizinische Wochenschrift.

a. WALTHARD, B.—" Zur Lehre der Askarideninfektion im Säuglings- und Kindesalter." LXIII (18), 421-424. [1933.]

b. FORSTER, E.—" Askaridenrekord." LXIII (19), 452. [1933.]

(a) From a clinical study of cases of ascaris infection in children Walthard concludes, from admittedly limited material, that the presence of these worms in infants under 2 years old may give rise to symptoms resembling essential, non-diabetic, ketonuria. An important feature is the glycogen impoverishment of the liver. R.T.L.

(b) The clinical history is related by Forster of a child with abdominal symptoms, simulating appendicitis, which subsided after the passage of 1,110 ascarids in four days as a result of treatment with Chenosan II. R.T.L.

118—Soil Science.

a. GODFREY, G. H. & HAGAN, H. R.—" Influence of soil hydrogen-ion concentrations on infection by *Heterodera radicicola* (Greeff) Müller." XXXV (3), 175-184. [1933.]

b. GODFREY, G. H., OLIVEIRA, J. M. & GITTEL, E. B. H.—" The duration of life of the root knot nematode, *Heterodera radicicola*, in soils subjected to drying." XXXV (3), 185-195. [1933.]

(a) Godfrey and Hagan record the results of experiments to determine the influence of measured ranges of soil pH on *Heterodera radicicola*.

In one series of experiments soil was treated with H_2SO_4 and NaOH to procure the desired range of pH values, and in another series, soil with known pH values through a wide range, obtained from pineapple and sugar cane fields was used. Hydrogen-ion concentrations between pH 3·5 and pH 8·5 were tested. Little effect on the nematode was manifest throughout, although a slight reduction in degree of infection of the host plants appeared at pH values of 7·6 to 8·0 as compared with lower values. M.J.T.

(b) Godfrey, Oliveira and Gittel record the results of experiments to determine the duration of life of *Heterodera radicicola* in soil subject to drying. Egg masses, free larvae and heavily infested roots were used for soil inoculation in different series of experiments.

When the inoculum was in the form of roots the nematodes survived for over 20 weeks in soil allowed to dry without stirring; for 16 to 20 weeks in soil frequently stirred to hasten drying; for over 20 weeks in soil with an excess of moisture over " moisture equivalent " requirements. When larvae were used to form the inoculum they remained alive in surface dried

soil (not stirred) for over 20 weeks; in air-dried soil (frequently stirred) for 16 to 20 weeks; in soil kept at moisture equivalent for over 40 weeks; in soil fluctuating between air-dry and moisture equivalent conditions for 12 to 16 weeks; in moisture equivalent soil kept sealed, for 14 to 16 weeks. The infection survived rather longer in all cases where egg masses were used instead of larvae. The following conditions appear to hasten the death of the nematode: excess moisture in which the larvae may be continuously active and so exhaust their vitality; fluctuating conditions between excess of moisture and air-dryness; sealing of soil containers with high moisture content, which permits continuous decay of organic matter. In woody roots the nematode may survive for over 9 weeks in moist soil environment. Such roots should therefore be exposed to the sun for several days before being ploughed in. M.J.T.

119—Southern Medical Journal.

a. CORT, W. W. & OTTO, G. F.—"The ascaris problem in the United States." XXVI (3), 273-278. [1933.]

(a) Cort shows, by a map and table, the remarkably uneven distribution of *Ascaris lumbricoides* in the United States.

The population of the mountains of the south-eastern Appalachian range extending from West Virginia to the northern part of Georgia and Alabama and west as far as central Kentucky and Tennessee are heavily infected as are the regions Columbus County, North Carolina, Tampa, Florida and south-central Louisiana. Elsewhere in the south-eastern United States ascaris has a low incidence, even where sanitation is poor and hookworm prevalent. The reasons for this peculiar distribution have been sought for without success. The author concludes from his study of the situation that on account of the rapidity of reinfection attempts to control this parasite by mass community treatment cannot be justified, but can only be reached by the raising of the standard of personal hygiene and household sanitation. R.T.L.

120—Tierärztliche Rundschau.

a. KORKHAUS.—"Zur parasitologisch-klinischen Bewertung einiger Anthelmintika. I. Valutin bei Hunden." XXXIX (16), 258-261, & (17), 275-278. [1933.]

(a) In this paper, published in two parts, Korkhaus records his extensive tests on dogs of "Valutin" as an anthelmintic. This proprietary drug, which is given in capsules, contains kamala, thymol and parazymol (a component of oil of chenopodium). It was given to 85 dogs of various breeds and ages, 82 of which were known to harbour parasites, chiefly *Dipylidium caninum* and ascarids. The drug was 100 per cent. successful, as judged by subsequent faeces examination, and was free from any harmful effect on the dogs. B.G.P.

121—Tijdschrift voor Diergeneeskunde.

a. MÖNNIG, H. O.—"Over eenige pluimvee-wormen verzameld te Utrecht." LX (9), 468-469. [1933.]

(a) Mönnig records the following helminths which he collected from poultry in Utrecht. *Ascaridia lineata* in 31 fowls, 1 turkey; *Heterakis gallinae* in 13 fowls, 2 turkeys, 1 pheasant; *Capillaria columbae* in 13 fowls; *C. longicollis* in 15 fowls; *Acuaria* (*cheilospirura*) *hamulosa* in 2 fowls; *Davainea proglottina* in 1 fowl; *Raillietina* (*Skrjabinia*) *cesticillus* in 4 fowls; *Hymenolepis* sp. in 1 fowl (probably *H. carioca*: insufficient material). Material in the collection of the Institute at Utrecht included *Notocotylus attenuatus* from a fowl, *Psilochasmus oxyurus* from a duck; and *Hypoderaeum conoideum* from a swan. B.G.P.

122—Transactions of the American Microscopical Society.

a. HOPKINS, S. H.—"Note on the life history of *Clinostomum marginatum* (Trematoda)." LII (2), 147-148. [1933.]

b. HUNNINEN, A. V. & HUNTER, G. W. III.—"On the species of Crepidostomum in trout." LII (2), 150-157. [1933.]

c. WALZ, L. G.—"The morphology and systematic position of *Megalogonia ictaluri* Surber 1928." LII (2), 158-161. [1933.]

d. KREIS, H. A. & FAUST, E. C.—"Two new species of Rhabditis (*Rhabditis macrocerca* and *R. clavopapillata*) associated with dogs and monkeys in experimental Strongyloides studies." LII (2), 162-172. [1933.]

e. HARWOOD, P. D.—"Some spiruroid nematodes from Texas birds." LII (2), 173-176. [1933.]

(a) Like several previous investigators Hopkins reports failure to ascertain the life-cycle of *Clinostomum marginatum*. He gives useful details of the structure and development of the metacercaria in the pirate perch *Aphredoderus sayanus*. R.T.L.

(b) Although similar, the North American coronate trematodes of trout are not identical with *Crepidostomum farionis* of Europe. Hunninen and Hunter recognize two species *C. transmarinum* (Nicoll), and *C. fausti* n. sp. The latter differs from *C. farionis* in the genital pore, cirrus sac, prepharynx, length of oesophagus, size of testes and a number of other minor characters. R.T.L.

(c) From a study of the morphology of *Megalogonia ictaluri* Walz finds that it agrees with the family Allocreadiidae as redefined by Winfield in 1929. As the genus has some features in common with *Bunodera* and others with the subfamily Allocreadiinae it forms an intermediate connecting link between them. R.T.L.

(d) Kreis and Faust describe 2 new species of Rhabditis found on the abdominal and perianal hairs of dogs and monkeys kept as experimental animals. These Rhabditis consistently contaminated Strongyloides cultures but were never found as endoparasites. As *R. macrocerca* and *R. clavopapillata* n. spp. they are described and figured. R.T.L.

(e) Harwood describes 2 new species of avian spirurids from Texas. *Dispharynx stonae* n. sp. in the Carolina wren *Thryothorus ludivicians* resembles *D. spiralis* but is much smaller, the glandular oesophagus is relatively much longer. The spicules, vulva and female tail also differ. *Hadjelia annulata* n. sp. from *Accipiter velox* is recognized by the character of the lips and the ratio of the spicules to each other. A key is given for the five known species of the genus *Hadjelia*. R.T.L.

123—Transactions of the Royal Society of Tropical Medicine and Hygiene.

a. KIRK, J. B. & ANDRÉ, J. H.—" Medical and sanitary notes on Rodrigues." XXVI (5), 449-466. [1933.]
b. MacARTHUR, W. P.—" Cysticercosis as a cause of epilepsy in man." XXVI (6), 525-528. [1933.]

(a) In the island of Rodrigues, near Mauritius, hookworm is widespread but slight. *Taenia*, *Schistosoma* and *Filaria* are apparently absent while *Ascaris* and *Oxyuris* are not mentioned in the report. R.T.L.

(b) A considerable number of soldiers are invalided from the British Army on account of epilepsy and MacArthur shows that in several cases this is due to infection with *Cysticercus cellulosae*. Of the last 22 cases of epilepsy admitted to Millbank Military Hospital 10 have proved to be due to cysticercosis. In 9 cases with cysticercosis, Fairley obtained positive complement-fixation in 5 only. R.T.L.

124—Verhandlungen der Gesellschaft für Verdauungs- und Stoffwechselkrankheiten.

a. FIEBIGER, J.—" Parasiten des Darmes." pp. 225-229. [1933.]

(a). Fiebiger gives a brief account of the helminthic and protozoal intestinal parasites of man and animals, with remarks on life histories, spread, pathogenesis, and diagnosis. [Original not available.] B.G.P.

125—Veterinary Journal.

a. CAMERON, T. W. M.—" The internal parasites of pigs : a survey." LXXXIX (2), 70-74. [1933.]

(a) After reviewing the helminth parasites of pigs in Great Britain as they occur in the various organs, Cameron concludes that the important species in Britain are *Ascaris lumbricoides*, the various species of *Metastrongylus*, *Hyostrongylus rubidus* and perhaps hydatid cysts. These constitute a most serious loss to pig breeders—probably at least as serious as that caused by bacterial diseases. R.T.L.

126—Veterinary Record.

a. GRAY, H.—" *Dioctophyme renale* (Goeze, 1782) in the kidney of a dog." With pathological report by Dr. Tom Hare. XIII (13), 276-278. [1933.]
b. CAMERON, T. W. M.—" Comparative pathology of helminths." XIII (15), 325-331. [1933.]
c. ROBINSON, L. E.—" Some modern aspects of anthelmintic treatment." XIII (15), 332-340. [1933.]
d. TAYLOR, E. L.—" The control of red-worms in horses." XIII (18), 399-406. [1933.]
e. TAYLOR, E. L.—" The longevity of parasitic worms with special reference to a report of the occurrence of *Dioctophyme renale* in this country." XIII (18), 407.
f. ANTHONY, D. J.—" *Taenia ovis* cysticerci in mutton." XIII (22), 520. [1933.]
g. PURVIS, G. B.—" The excretory system of *Platynosomum concinnum* (Braun, 1901) ; syn. *P. fastosum* (Kossack, 1910) ; and *P. planicipitis* (Cameron, 1928)." XIII (24), 565. [1933.]
h. REYNOLDS, E. B.—" Some modern aspects of anthelmintic treatment." XIII (25), 602. [1933.]

(a) A brief description is given of an English spaniel infected with the kidney worm apparently contracted in India. A pathological report is appended by Dr. T. Hare. R.T.L.

(b) In a review of the comparative pathology of helminths, Cameron deals extensively with some of the more important parasites among the cestodes, trematodes and nematodes. The action of the parasite and the reaction of the host are usefully summarized. D.O.M.

(c) Robinson discusses the advances which have been made of recent years in our knowledge of anthelmintic treatment and brings under review such questions as purgation, fasting before dosing and the selection of a suitable anthelmintic. Some of the principal drugs in modern use are dealt with in considerable detail. D.O.M.

(d) In this paper Taylor gives a useful resumé of our present knowledge of red-worms in horses. The life history, pathogenicity, diagnosis, treatment, prevention and control of the parasites are extensively dealt with. D.O.M.

(e) In this note Taylor discusses the longevity of *Dioctophyme renale* as bearing on Gray's recent report of its occurrence in a spaniel in England and cites 4 records for nematodes, 8 for trematodes and 7 for cestodes in illustration of the duration of life of helminth parasites in hosts after they have left the endemic regions. R.T.L.

(f) Extensive infection of a sheep's carcase with *Cysticercus ovis* is recorded by Anthony, but the locality from which the carcase came is not mentioned R.T.L.

(g) A rough sketch of the excretory bladder and main excretory vessels of *Platynosomum concinnum* is given by Purvis, but the finer details such as the flame cells are omitted. R.T.L.

(h) The clinical history and differential white cell counts of 6 cases of *Loa loa* are given by Greig. R.T.L.

127—Veterinary Research Report. Department of Agriculture, New South Wales.

a. McGRATH, T. T.—" Occurrence of *Cooperia curticei* in sheep in New South Wales." No. 6, Part III (December, 1931), 111-113. [1933.]

(a) McGrath records the presence of *Cooperia curticei* in the first forty feet of the small intestine of a sheep, which was also infected with Haemonchus in the abomasum and had been infected with *Oesophagostomum columbianum*. T.W.M.C.

128—Wiadomości Weterynaryjnych.

a. OBITZ, K.—" Pasorzyty Jelitowe Bydła z Okolic Błota Hryczyn Oraz Pewne Uwagi o Badaniu Kału Przezuwaczy." [Les parasites intestinaux des boeufs des environs du marécage Hryczyn (Pologne) et quelques remarques sur l'examen coprologique des ruminants.]. No. 153, [Reprint 15 pp.] [1933.]

(a) Obitz tabulates the occurrence of the internal parasites of cattle in the neighbourhood of the Hryczyn marsh in Poland as revealed by 400 faecal examinations of cattle of all ages in July and August.

Although *Paramphistomum cervi* and *Fasciola hepatica* were common the reputed intermediate hosts were difficult to find. He confirms the opinion that peaty pastures on sandy subsoil are exceptionally favourable to the development of gastro-intestinal nematodes. *Ascaris vitulorum*, *Bunostomum phlebotomum*, *Trichuris ovis* and *Dictyocaulus viviparus* were rare. The author briefly reviews various methods of egg concentration. R.T.L.

129—Wiener Tierärztliche Monatsschrift.

a. STRASSL, J.—"Erfahrungen mit dem Wurmmittel Noëmin." XX (6), 174-175. [1933.]

(a) Strassl has tested a proprietary anthelmintic, Noëmin, against intestinal worms in 15 horses. The horses were starved from midday and given 4 to 6 tablets in the evening and again next morning on an empty stomach, foals under 2 years receiving half quantities. The drug was partially effective but most horses required a second treatment; it is harmless and not excessively dear. B.G.P.

130—Zeitschrift für Parasitenkunde.

a. SZIDAT, L.—"Über drei neue monostome Gabelschwanzcercarien der ostpreussischen Fauna." V (3/4), 443-459. [1933.]

b. SANDGROUND, J. H.—"Report on the nematode parasites collected by the Kelley-Roosevelts expedition to Indo-China with descriptions of several new species. Part 1. Parasites of birds. Part 2. Parasites of mammals." V (3/4), 542-583. [1933.]

c. GEBAUER, O.—"Beitrag zur Kenntnis von Nematoden aus Affenlungen." V (3/4), 724-734. [1933.]

d. SCHULZ, R. E.—"*Ashworthius sidemi* n. sp. (Nematoda, Trichostrongylidae) aus einem Hirsch (*Pseudaxis hortulorum*) des fernen Ostens." V (3/4), 735-739. [1933.]

(a) Szidat describes and figures three new species of furcocercous Monostome cercariae from the Kurisches Haff and the dikes of East Prussia. These, which belong to Sewell's "Vivax" group, are: *Cercaria curonensis* and *C. balthica* with a flame-cell pattern 2(5+2), and *C. monostomi viviparae* with the pattern 2(9+3). The latter, from *Vivipara vivipara*, encysts in the mantle wall of its host and in this form was described by Linstow (1877) as *Monostomum viviparae*. Szidat fed the cercariae to rats and obtained immature flukes, of the subfamily Cyathocotylinae, for which he proposes the new generic name *Linstowiella*. B.G.P.

(b) Sandground describes the nematodes collected from birds and mammals in Indo-China by the Kelley-Roosevelts Expedition. The following new species are included. From birds: *Thelazia dentifera*, *T. annamensis*, *T. longicauda*, *Hamatospiculum pertenuialatum*, *Ornithosetaria angustispiculum* n. g., n. sp., *Lissonema striata* and *L. laevicutis*; from mammals: *Uncinaria longispicula*, *Rictularia wheeleri*, *Dirofilaria macacae*, *D. pagumae*, *D. minor* and *Dipetalonema sunci*. B.G.P.

(c) Gebauer describes some nematodes from the lungs of monkeys and tabulates the 9 species known up to date, with their hosts and localities.

His own material consisted of 3 females of a species of *Oslerus* from *Cercopithecus schmidti*; *Filaroides cebi* n. sp. from *Cebus macrocephalus* and another capuchin; fragments of female nematodes of the genus *Filaroides* from *Lagothrix infumata*; and *Gongylonema microgubernaculum* n. sp. from *Silenus rhesus*. Only females of the latter were found in medium-sized bronchi: the males were in the oesophagus. [Under 7 figures *F. cebi* is printed as *F. cebus*.] B.G.P.

(d) Schulz describes a new species of Trichostrongylidae, *Ashworthius sidemi*, from the 4th stomach of the deer *Pseudaxis hortulorum* from the far east of Russia. It is differentiated from the only other species, *A. pattoni* Le Roux, by the shape and size of the spicules and of the dorsal ray.

B.G.P.

131—Zeitschrift für Vergleichende Physiologie.

a. BRAND, Th. v.—"Untersuchungen über den Stoffbestand einiger Cestoden und den Stoffwechsel von *Moniezia expansa*." XVIII (3), 562-596. [1933.]

(a) Von Brand has investigated in detail the chemical composition of the body-substance, and the metabolism, of *Moniezia expansa*, not only as found in the intestine of sheep but also after culture for 6 hours (i) under starvation conditions in Ringer's solution and (ii) in Ringer's +5 per cent. glucose.

Tables show the glycogen content, dry weight, fat content, protein content, ash, and chalk bodies in the normal worm, with some comparative values for other taenioids. Other tables show the values, before and after starving or culturing with glucose respectively, of glycogen, ether-extract, nitrogen and CO_2 evolved. In addition to these analyses of the body substance, the surrounding solution is tested for total acidity (less H_2CO_3), lactic acid, succinic acid, and substances soluble in ether but not in water.

The author concludes that the metabolism is of the same type as that found in Fasciola [Helm. Abs. II, No. 53*d*]: the anoxybiotic decomposition of glycogen yields energy, and fats are excreted as waste products. Under starvation the glycogen deposits decrease considerably; with the addition of grape-sugar to the medium, less glycogen is lost but none is elaborated from the sugar. Under starvation the fats remain deposited in the tissues, and under sugar culture they increase slightly; moreover, higher fatty acids, lactic acid and succinic acid are excreted into the surrounding medium. Succinic acid, which has also been found in sterile hydatid fluid, is difficult to account for. The lactic and higher fatty acids are presumably derived from glycogen, part being excreted and part deposited (as fats) in the substance of the segment. Such deposition is not surprising in view of the short life of a segment. The deposited fats also contain a stearic and a phosphoric acid fraction of unknown significance. The excretion of CO_2 is unaffected by starvation or sugar-culture. The "chalk bodies" proved to be phosphates and carbonates of Ca and Mg. Summarizing, the author calculates that in 24 hours 100 gm. glycogen produces 0·4 gm. ether-soluble products and 0·44 gm. CO_2. B.G.P.

132—Zeitschrift für Zellforschung und Mikroskopische Anatomie.

a. GEHRKE, P. I.—"Pulsationserscheinungen in Spermatozoen bei *Angiostomum* (*Rhabdonema*) *nigrovenosum*." XVII (3), 471-475. [1933.]

(a) Gehrke describes a rhythmic change in the nuclear structure of the spermatozoa in the hermaphrodite (parasitic) generation of *Angiostomum nigrovenosum*. The nucleus alternates from a spherical, homogeneously stained mass to a form with 5 or 6 minute, chromophilic granules around its periphery. B.G.P.

133—Zentralblatt für Bakteriologie. Abteilung I. Originale.

a. SCHERESCHEWSKY, H.—"Zur Kenntnis der Helminthenfauna des Nordens." CXXVIII (5/6), 326-328. [1933.]
b. TRAWIŃSKI, A. & MATERNOWSKA, I.—"Ueber Invasionsfähigkeit junger Muskeltrichinen." CXXVIII (5/6), 328-331. [1933.]

(a) Schereschewsky mentions some parasites found in dogs and in wild and silver foxes during a brief visit to a fur-farm on Solowezki island in the White Sea.

From wild red foxes she records *Uncinaria polaris*, also found in the extreme north of America, and in a fox from the Murman Coast an immature ascarid and a species of *Streptopharagus*, the first record of this genus in *Vulpes vulgaris*. In dogs were found *Ancylostoma caninum* and *Toxascaris marginata* var. *solowezki* [var. nov. ?]. B.G.P.

(b) Trawiński and Maternowska find that young Trichinella larvae are incapable of developing in a new host until at least the 19th day after the infection of the original host. Such unencapsuled larvae are yet very resistant to stomach secretions and their inability to develop is due merely to their immaturity. B.G.P.

134—Zoologischer Anzeiger.

a. PINTNER, T.—"Helminthologische Mitteilungen. III." CII (7/8), 219-221. [1933.]
b. BYCHOWSKY, B.—"Die Bedeutung der monogenetischen Trematoden für die Erforschung der systematischen Beziehungen der Karpfenfische." CII (9/10), 243-251. [1933.]
c. SKRJABIN, K. I. & SCHULZ, R. E.—"Ein neuer Trematode, *Ogmocotyle pygargi* n.g., n. sp., aus einem ~~Reh.~~ (*Capreolus pygargus bedfordi* Thomas)." CII (9/10), 267-270. [1933.]
d. SCHULZ, R. E., ORLOW, I. W. & KUTASS, A. J.—"Zur Systematik der Subfamilie Synthetocaulinae Skrj. 1932 nebst Beschreibung einiger neuer Gattungen und Arten." CII (11/12), 303-310. [1933.]
e. MARKEWITSCH, A. P.—"Neue Dactylogyrus-Art (Monogenea) aus der Ukraine." CIII (1/2), 18-20. [1933.]
f. FILIPJEV, I. N.—"Miscellanea nematologica. 5. Über einige Nematoden aus dem Teleckoje-See (Altai, Sibirien)." CIII (3/4), 55-62. [1933.]
g. HOPKINS, S. H.—"The morphology, life histories and relationships of the papillose Allocreadiidae (trematodes)." CIII (3/4), 65-74. [1933.]
h. JOHRI, L. N.—"On the genus *Houttuynia* Fuhrmann, 1920 (Cestoda), with a description of some species of *Raillietina* from the pigeons." CIII (3/4), 89-92. [1933.]

(a) Pintner, having come across a specimen of *Calyptrobothrium rigii* from *Torpedo marmorota*, Naples, is assured by its large head that it is not conspecific with *Bilocularia hyperapolitica*; both Tetraphyllidae are unusual in having the bothridia radially disposed at right angles one to another. He is also convinced that *Rhinebothrium insignia* is distinct from *Echeneibothrium flexile*. B.G.P.

(b) Bychowsky discusses the question of host specificity in the Monogenea in its bearing upon ichthyological systematics.

In particular he is concerned with species of the genus *Dactylogyrus* parasitizing *Cyprinidae*. As a rule one species of *Dactylogyrus* parasitizes only one species of fish; where there are alternative hosts they usually prove to be not only closely related but also capable of producing hybrids. Some published observations tend to conflict with this scheme, but the author would appear to doubt their validity. B.G.P.

(c) Skrjabin and Schulz describe *Ogmocotyle pygargi* n.g., n. sp., a trematode of the family Notocotylidae from the intestine of *Capreolus pygargus bedfordi*, from the Vladivostok region.

The following changes in classification are also proposed. *Ogmocotyle* is given a new subfamily, *Ogmocotylinae*, in the family Notocotylidae which is grouped with the Rhabdiopoeidae, Opisthotrematidae, and Pronocephalidae in a new suborder, *Notocotylata*. B.G.P.

(d) Schulz, Orlow and Kutass have systematically reviewed the subfamily *Synthetocaulinae* Skrjabin, 1932, with the addition to it of some new genera and species.

They have erected 3 sub-subfamilies: *Synthetocaulea* containing Synthetocaulus, Neostrongylus and two new genera; *Angiostrongylea* containing Angiostrongylus, Elaphostrongylus, Parastrongylus, Troglostrongylus, Aelurostrongylus and one new genus; and *Cheiropteronematea* containing only Cheiropteronema.

The new forms are: *Synthetocaulus raillieti* n. sp., *S. hobmaieri* n. sp., and *Spiculocaulus leuckarti* n.g., n. sp., all from sheep, and *Rodentocaulus ondatrae* n.g., n. sp., from *Ondatra zibethica*. *Cystocaulus* n. g. receives *Synthetocaulus nigrescens* Jerke, 1911. B.G.P.

(e) Markewitsch describes a new species of Monogenea, *Dactylogyrus nybelina*, from the swim bladder of the fresh-water fish *Rutilus frisii*, taken in the river Dnieper near Mogilev. [It may be of importance to systematists to note that this species was originally described and named in 1931 in a publication in the Ukrainian language.] B.G.P.

(f) Filipjev lists the nematode fauna of the freshwater Teleckoje-See and describes the morphology of some of the less well-known species, viz., *Dorylaimus helveticus*, *D. similis* and *Paramermis lepnevae* n. sp.

The characters of the genus *Paramermis* and the type species *P. contorta* are discussed and the morphology of *P. lepnevae* n. sp. is described in detail, the head and tail ends of the male being figured. R.T.L.

(g) Hopkins has redescribed *Crepidostomum*, *Megalogonia* and *Bunodera* on the basis of an extensive comparative morphological study, and finds them closely related one to another and to *Allocreadium* within the family Allocreadiidae. The subfamily Stephanophialinae and the family Bunoderidae are not justifiable. Life-histories of at least 3 quite different types occur among the Allocreadiidae, and some of the included genera, other than the 3 above mentioned, are of doubtful relationship to *Allocreadium*. B.G.P.

(h) Johri maintains that a valid difference cannot be shown to exist between the genera *Raillietina* and *Houttuynia*; the latter name has priority but the author suggests waiving the Rules and retaining *Raillietina* in order to avoid confusion. He describes *R. perplexa* n. sp. from *Columba intermedia*, Lucknow, and adds notes on *R. nagpurensis* and *R. torquata* also from pigeons. B.G.P.